

Invisible Inanimates and Problems for Polysynthesis in Northern Iroquoian

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Abstract: Northern Iroquoian languages are famous for the complexities of their agreement systems. These languages share properties commonly attributed to so-called “non-configurational” languages: free or discourse-configurational word order, null anaphora, and a robust system of argument-indexing morphemes, referred to in the Iroquoianist literature as “pronominal prefixes” (Michelson 2016; Mithun 2017; Mithun and DeCaire 2023). Beyond this, the closely-related Northern Iroquoian languages Kanien’kéha and Oneida have both been the subject of theoretical proposals for major parametric variation among human languages. In *The Polysynthesis Parameter*, Baker (1996) draws primarily on Kanien’kéha, arguing that a macroparater relating to the realization of agreement morphology is responsible for a wide range of morphosyntactic phenomena in Kanien’kéha and other polysynthetic languages. More recently, Koenig and Michelson (2015) examine agreement puzzles in Oneida, and conclude that Oneida lacks a level of argument structure and local syntactic selection altogether, instead mapping directly from the semantic representation to the morphology. In this paper, I examine puzzles in the realization and distribution of pronominal prefixes, with an empirical focus on (i) an alignment split in the stative aspect and (ii) restrictions on the distribution of animate arguments. In order to account for these patterns, I propose—in line with recent work on Algonquian and Dene languages (Oxford 2019; Lochbihler et al. 2021)—that inanimate nominals lack person, number, and gender (ϕ) features altogether. While this proposal captures the empirical patterns while retaining independently-motivated assumptions about argument structure, the absence of ϕ -features on inanimates also points to a rejection of the *Polysynthesis Parameter*, which requires all arguments in polysynthetic languages to be morphologically referenced on the verb. The larger conclusion will be that grammatical properties of Kanien’kéha do not require appeal to radical parametric variation, but rather can be seen as the cumulative effect of smaller independently-motivated differences.

Keywords: Northern Iroquoian, Kanien’kéha, agreement, pronominal prefixes, aspect, polysynthesis

1 Introduction

This paper focuses on agreement puzzles and parametric variation in two closely-related Northern Iroquoian languages: Kanien’kéha (also known as Mohawk) and Oneida. Both of these languages have been argued to require major shifts in our understanding of the principles shared by human languages. Baker (1996) draws primarily on Kanien’kéha for his proposal of a “Polysynthesis Parameter”—a macroparameter relating to the realization of agreement morphology, which has far-reaching impacts on the syntax

¹First and foremost, I would like to thank the Kanien’kéha language learners and speakers who are working to revitalize and promote this language. I am particularly indebted to Mary Onwá:ri Tekahawáhkwen McDonald, Akwiratékha’ Martin, Konwaronhiá:wi Helen Norton, and Katerí Deer for sharing their knowledge of the language with me, though they should not be held responsible for anything I say here. I am grateful to Karin Michelson for her generosity and enthusiasm in discussing Iroquoian languages and linguistics. Many thanks also to Faruk Akkuş, Luis Alonso-Ovalle, Mark Baker, Arihwí:saks Benedict, Chase Boles, Seth Cable, James Crippen, Tehokwiráthe Cross, Tsowén:te Cross, Amy Rose Deal, Terrance Gatchalian, Sophia Flaim, Heidi Harley, Robert Henderson, Stefan Keine, JP Koenig, Simon LiVolsi, Katya Morgunova, Willie Myers, Ro’nikonhkátste Norton, Will Oxford, Lefteris Papparounas, Martin Renard, Karonhíiostha Shea Sky, and the *Roti’nikonhrowá:nens*, *Iakwaríhwí:saks*, and McGill Syntax-Semantics groups for helpful discussions, comments, and feedback on aspects of this work; any mistakes or oversights are my own. This research was supported by a Canada Research Chair and a SSHRC Insight Development Grant.

of polysynthetic languages. In a 2015 paper in *Language*, Koenig and Michelson discuss two agreement puzzles in Oneida, and reach a very different conclusion: that Oneida has “no evidence of local selection or the presence of a level of argument structure”; the result, for them, is a much wider range of possible variation in how languages map from semantic representation to morphology (Koenig and Michelson 2015, 41). In this paper, I examine the empirical landscape related to the realization of argument-indexing morphology with a focus on Kanien’kéha, and argue for an analysis which relies on standard assumptions about agreement and clause structure, without appeal to macro-parameters.

What are the properties of these languages that have called for such extremities and variation in analyses? At a typological level, Northern Iroquoian languages are head-marking and polysynthetic, making frequent use of noun incorporation as well as derivational and inflectional morphology. Typical examples illustrating the complexity of verbal morphology from Kanien’kéha and Oneida are shown in (1) and (2).²

- (1) *Enionkhitsenhaién:hahse’ akwé:kon.*
 En-ionkhi-tsenh-a-ien-hahs-e’ akwekon
 FUT-3PL>1PL-fire-JR-set-BEN-PUNC all
 ‘They will kindle fire for us all.’ (Kanien’kéha; Mithun 2006b, 213)
- (2) *Waʔ-te-khey-atat-yΛ-téle-hs-eʔ Tá-wet kháleʔ Só-s.*
 FACT-DUP-1SG>3PL-REFL-know-BEN-PUNC David and Susan
 ‘I introduced David and Susan to each other.’ (Oneida; Koenig and Michelson 2015, 10)

In addition to being morphologically polysynthetic, Northern Iroquoian languages share characteristics of “non-configurational” languages (Hale 1983): they have been described as having “free” or discourse-governed word order, and exhibit null anaphora, with free-standing pronouns being pragmatically marked (e.g., Michelson 2016; Mithun 2017). Furthermore, works such as Baker 1996 and Koenig and Michelson 2015 identify additional differences in the morphology and syntax, discussed further below, which are argued to require a departure from the syntax of more commonly studied languages like English.

Baker (1996, 3) clearly articulates the puzzle that these languages pose for our understanding of cross-linguistic variation. He notes that there are “two extreme positions one can take toward the superficial differences among languages”: either Northern Iroquoian languages differ from English in a number of small ways, and that it is “the cumulative effect of all these little differences” which result in their very different surface grammars. On the other extreme, it could be that there is *one major difference* between Kanien’kéha and Oneida on the one hand, and a language like English on the other. Though very different in their ultimate conclusions, Baker (1996) and Koenig and Michelson (2015) both argue for the latter path.

In this paper, I focus on the two main puzzles related to the distribution and realization of pronominal prefixes raised in Koenig and Michelson 2015 and propose that both can be accounted for under a proposal in which *inanimate nominals lack features for person, number, and gender* (φ -features) *altogether*—inanimates are thus entirely ignored by the agreement system. I show furthermore that the full range of patterns is not only compatible with a syntactic analysis relying on standard assumptions about agreement and argument structure, but indeed requires explicit reference to a hierarchical arrangement of ar-

²Abbreviations used in glosses follow Leipzig conventions, with the following additions: ANIM – animate; BEN – benefactive; CIS – cislocative; CL – clitic; DISTR – distributive; DUP – duplicative; DU – dual; F – feminine/indefinite; FACT – factual; FOR.PST – former past; HAB – habitual (=imperfective); HUM – human; INAN – inanimate; JR – joiner; N – neuter; NE – particle *ne*; OPT – optative; PL – plural; PUNC – punctual (=perfective); PRON – pronoun; REP – repetitive; REV – reversive; RMT – remote past; SREL – semi-reflexive; SG – singular; TRANS – translocative; Z – feminine/zoic. Agreement prefixes belong to one of three categories: agentive/subjective (A); patientive/objective (P) or transitive (X>Y), discussed further below. In colour versions of this paper, A-prefixes are red, P-prefixes are blue, and transitive prefixes are purple, in line with community-oriented pedagogical materials.

Examples are presented in a 4-line gloss, with the initial line representing the standard orthography and the second line representing the morphological break-down with underlying representations where relevant. Stress and length are assigned by regular word-level phonological processes (Michelson 1988; LiVolsi in prep), and are thus represented only on the first line.

guments (contra [Koenig and Michelson 2015](#)). Importantly, however (and in line with discussion in [Koenig and Michelson 2015](#)), the proposal that inanimates bear no ϕ -features requires minimally a weakening of [Baker’s \(1996\) Morphological Visibility Condition \(MVC\)](#), the principle underlying the Polysynthesis Parameter which requires all arguments of a verb to be morphologically referenced. I propose that inanimates are invisible to the agreement system and are not associated with null morphemes, but rather the absence of agreement altogether—a result that is incompatible with the MVC. I conclude in the spirit of [Haspelmath’s \(2018\) review of the Handbook of Polysynthesis \(Fortescue et al. 2017\)](#) that “polysynthesis” is likely best not treated as a technical term or single property for which a single parameter should account.

The remainder of this paper is organized as follows. Section 2 introduces relevant background on the language and pronominal prefix system, and then articulates the proposal that inanimate nominals lack features altogether. Here I lay out a probe-goal system of Agree that captures the basic patterns of pronominal prefixes in transitive and intransitive clauses. Sections 3 and 4 turn to the two puzzles related to the distribution of pronominal prefixes laid out in [Koenig and Michelson 2015](#). The first involves an “agreement shift” in what is known as the stative aspect, and the second involves restrictions on argument realization in ditransitives. In each of these sections, I articulate the empirical pattern and then show how the absence of ϕ -features on inanimates and the probe-goal system developed in 2, together with independently-supported proposals about clause structure, can handle the facts. Section 5 concludes with a summary and discussion of wider implications for polysynthesis.

2 Northern Iroquoian agreement

Iroquoian languages are divided into Northern and Southern branches ([Lounsbury 1978](#)). Cherokee is the only language of the Southern branch, while the Northern branch includes languages of the Six Nations Rotinonhsión:ni (Haudenosaunee or Iroquois) Confederacy: Kanien’kéha, Oneida, Onondaga, Cayuga, Seneca, and Tuscarora, as well as Wendat (Huron)/Wyandot, and a few less-documented and dormant languages ([Michelson 2016](#); [Mithun 2017](#); [Barrie and Uchihara 2019](#); [Mithun and DeCaire 2023](#)).

This paper focuses on Kanien’kéha [gan.jãʔ.ʔge.ha], a language spoken in Quebec, Ontario, and New York primarily by Elders who learned it as a first language, as well as by a growing population of fluent second-language speakers and their children learning the language in the home and in language nest environments. [DeCaire \(2023\)](#) estimates a little over 600 total “advanced level” speakers across all communities, as well as over 1000 intermediate speakers, as the result of robust community-driven language revitalization efforts ([Green 2009](#); [Stacey 2016, 2024](#); [Brant 2016, 2023](#); [DeCaire 2023](#))

Although the discussion in [Koenig and Michelson 2015](#) focuses on Oneida, they note that the generalizations they list hold in other Northern Iroquoian languages as well (see also [Michelson 2016](#); [Mithun 2006a, 2017](#) on the close relation between Kanien’kéha and Oneida). Unless otherwise noted, all examples below are presented in Kanien’kéha. The language material in this paper is drawn in part from published sources, cited below and rechecked, and in part from consultation work with community language experts Mary Onwá:ri Tekahawáhkwen McDonald of Ahkwesáhsne and Akwiratékha’ Martin of Kahnawà:ke, as well as additional consultation on the benefactives in section 4 with first-language speakers Konwaronhiá:wi Helen Norton and Katerí Deer of Kahnawà:ke. Elicitation sessions were conducted in English and followed standard context-driven elicitation methodology (see [Matthewson 2004](#); [Bowerman 2008](#)). In some cases, spelling, glosses, or gloss abbreviations have been modified from original sources for consistency, and Kanien’kéha examples from earlier works have been updated to reflect the current orthographic norms ([Lazore 1993](#)). Any remaining or introduced mistakes are my own.

This remainder of this section lays out the relevant background and a proposal for basic agreement mechanisms in the Northern Iroquoian verb. First, section 2.1 provides an initial overview of verb stems and verbal inflection in order to orient the discussion that follows. Section 2.2 introduces the pronominal

prefixes together with their proposed featural representations, and specifically lays out my proposal that inanimate nominals lack features for person, number, and gender altogether. Finally, in section 2.3 I propose a formal mechanism underlying the pronominal prefixes, and provide initial evidence for the special treatment of inanimate nominals.

2.1 Verb stems and verbal inflection

Northern Iroquoian languages are typically recognized as having at least three surface parts of speech: nouns, verbs, and particles (see discussion in [Michelson 2023b](#)). Verbs will be the primary focus of our discussion here, and the basic layout of the Northern Iroquoian verb stem is previewed in (3) ([Lounsbury 1953](#); [Mithun 2009, 2017](#)).

- (3) Northern Iroquoian verb morphology
 (PREPRONOMINAL PREFIX(ES) –) PRONOMINAL PREFIX – [Verb stem] – ASPECT – (TENSE)

As indicated in (3), verbs include at least a verb stem bearing an aspectual suffix (except imperatives, which lack aspect) and prefixed by a pronominal prefix, discussed in detail below. Verbs may also appear with optional past marking (see [Martin 2023b](#); [Gatchalian 2025](#)), and with one or more of a set of what are called “prepronominal prefixes”, which encode a range of grammatical information including negation, modality, location, direction, iterativity, and others ([Mithun 2017](#); [Barrie and Uchihara 2019](#)). Examples of forms with simple verb stems illustrating the components in (3) are shown in (4).

- (4) a. *wa'khní:non'*
 wa'-**k**-hninon-'
 FACT-1SGA-buy-PUNC
 'I bought it'
- b. *katá:wenskwé'*
k-atawen-s-kwé'
 1SG-SWIM-HAB-FOR.PST
 'I used to swim'
- c. *wakató:rión*
wak-atori-on
 1SGP-drive-STAT
 'I have driven' ([Martin 2023b](#))

The forms in (4) also serve to illustrate the three core aspects relevant below: perfective (glossed here following Iroquoianist literature as “punctual”); imperfective (glossed “habitual”); and stative. The perfective aspect requires the addition of one of a set of prepronominal prefixes, such as the factual *wa'* in (4a).

The verb stem represented in square brackets in (3) may itself be internally complex, including minimally a verb root suffixed by one or more derivational suffixes, with incorporated nouns or reflexive or middle (“semi-reflexives” in Iroquoianist terminology) markers preceding the root, as schematized in (5).

- (5) Northern Iroquoian verb stem
 (SEMI-)REFLEXIVE – NOUN STEM – **verb root** – DERIVATIONAL SUFFIXES

Examples of more complex verbs stems include those previewed in (1) and (2) above, as well as in (6), where the stem components are enclosed in square brackets and the root is boldfaced. Stem-internal elements sometimes require what is called a “joiner” or a “linker” vowel in order to break up consonant clusters, here glossed ‘JR’. The joiner can be described as an epenthetic vowel insofar as its distribution is phonologically

governed, but it is also limited to occurring between roots and derivational morphemes; see e.g., [Michelson 1988](#).

- (6) a. *aonsakonwaia'tisákha'*
 a-onsa-konwa-[ia't-isak-ha]-'
 OPT-REP-3PL>ZSG-[body-see-PURP]-PUNC
 'they should go back to look for her' (Mithun 2009)
- b. *iakwatenonhsatariha'tahkwha'*
 iakwa-[ate-nonhs-a-tarih-a-'t-a-hkw]-ha'
 1PL.EXCLA-[SRFL-house-JR-heat-JR-CAUS-JR-INST]-HAB
 'we heat our house with it' (Mithun 2005, 453)

2.2 Introducing pronominal prefixes

Central to the larger discussion here are the sets of “pronominal prefixes”, which expone person, number, and gender features of arguments. [Chafe \(1977, 493\)](#), discussing Kanien'kéha, Oneida, Onondaga, Cayuga, and Seneca, notes that “each language has on the order of sixty-five or seventy such prefixes, and one of the joys of Iroquoian linguistics has been to unravel their form and function in each language.” The set of Kanien'kéha prefixes, from [Martin 2023b](#), is shown in appendix A.

Verbal pronominal prefixes are typically divided into three sets: (i) agent prefixes (also called “subjective”); (ii) patient prefixes (also called “objective”); and (iii) transitive prefixes, the distribution of which is the focus of section 2.3.³ These prefixes distinguish person, number, and gender ([Lounsbury 1953](#); [Chafe 1977](#); [Michelson 2015](#); [Martin 2023b](#)). Person distinctions include 1st, 2nd, and 3rd persons, as well as a clusivity distinction for 1st-person non-singulars, while number includes singular ('SG'), dual ('DU'), and plural ('PL'). An example of each type of prefix is provided in (7).

- (7) a. *iakenihiá:tons*
iakeni-hiaton-s
 1DU.EXCLA-write-HAB
 'we(DU.EXCL) write'
- b. *rotí:ten*
roti-iten
 MPLP-be.poor[STAT]
 'they(M.PL) are poor'
- c. *takhró:ris*
tak-hrori-s
 2SG>1SG-tell-HAB
 'you tell me' (Martin 2023b)

Third person nominals can be classed into four genders based on the pronominal prefixes they trigger: masculine ('M'), feminine/indefinite ('F'), feminine/zoic ('Z'), and neuter ('N'). Masculine gender includes singular males and groups with at least one male. The feminine/indefinite gender comprises singular fe-

³In colour versions of this paper, these appear as red (A-prefixes), blue (P-prefixes) and purple (transitive prefixes), following conventions in pedagogical materials (see e.g., [DeCaire 2023](#)). This colour scheme reflects the fact, discussed below, that transitive prefixes are often transparently decomposable into components reflecting the two arguments they index (red+blue=purple). The literature is divided on whether these are termed “agent” and “patient” prefixes, versus “subjective” and “objective” prefixes. I use the agent/patient terminology here, noting that prefix choice does not align perfectly with the thematic roles of agent or patient, as we will see below. I use the term “subject” throughout to refer to the single argument of intransitives or the highest argument of a transitive verb, but I do not assume a dedicated subject position.

male humans, as well as non-specific or generic human referents. The feminine/zoic, on the other hand, includes singular, dual, and plural female humans, as well as animals. The choice of whether to use the feminine/indefinite or the feminine/zoic for singular female humans carries social implications; see discussion in [Bonvillain 1973](#); [Abbott 1984](#); [Mithun 2014](#); [Michelson 2015](#). Finally, nominals denoting inanimate entities are classified as neuter.

I follow [Harley and Ritter \(2002\)](#) and much subsequent work in taking features to be arranged in *geometries*, with more specified features entailing the presence of less specified features. Formally, I propose the featural organizations in (8) for the four genders.

(8) φ -features for 3rd person nominals

	person	gender	number
masculine	[PERS [ANIM [HUM]]]	[MASC]	[#]
feminine/indefinite	[PERS [ANIM [HUM]]]	—	—
feminine/zoic	[PERS [ANIM]]	—	[#]
neuter	—	—	—

With respect to *person* features, I assume that masculine, feminine/indefinite, and feminine/zoic all contain a general person node, [PERS], the presence of which is entailed by an animate node, [ANIM], both of which neuter arguments lack. Masculine and feminine/indefinite genders are further restricted to humans with the feature [HUM]; feminine/zoic, which is used for animals—as well as human females in certain situations—lacks this human node. The proposal that the contrast between humans, non-human animates, and neuters is in fact a distinction in *person* (and not gender) also finds precedent in [Oxford 2019](#) for Algonquian and [Toosarvandani 2023](#) for Zapotec. First and second persons would include further specifications on the person node, not discussed here.

I propose that masculine nominals are the only ones formally specified for a gender feature, [MASC]. Under this approach, the two “feminine” genders can be understood as simply the absence of this specification. This aligns with the historical trajectory, for which it has been proposed that the masculine/feminine distinction was the last to emerge ([Chafe 1977](#)), as well as with discussion in [Boas 1909](#), noted in [Abbott 1984](#), who called the feminine/indefinite and feminine/zoic the “non-masculine” genders.⁴ Finally, I suggest that the proposal that only masculine has a true gender feature may find support in the prefix paradigm in appendix A, in which singular masculine forms typically do not participate in the same range of syncretisms as the other 3rd persons (i.e., these forms would be specified for [MASC]).

Masculine and feminine/zoic may optionally encode number. Neuter and feminine/indefinite nouns do not make number distinctions, and in the glosses I do not include number for these categories. For neuter nominals, this is compatible with the proposal that they lack φ -features altogether. I suggest that the absence of a number distinction for feminine/indefinites correlates with their “indefinite” function, akin to “impersonal pronouns”, like German *man*, which have been argued to be featurally deficient (e.g., [Hoekstra 2010](#); [Ackema and Neeleman 2018](#); see [Little 2024](#) for an overview). Adopting the proposal in [Harley and Ritter 2002](#) that gender and number are both dependent on an INDIVIDUATION node, one possibility would be to represent the feminine/indefinite as bearing *only* the person features in (8), and lacking an INDIVIDUATION node altogether. The use of the feminine/indefinite with singular female humans can then be understood insofar as this form is *not* marked for masculine gender, and *not* marked for number. For the purposes of this work, I remain agnostic about the featural representation of the three-way number contrast which is available for 1st/2nd persons, masculine, and feminine/zoic nouns; see [Harley and Ritter 2002](#); [Cowper 2005](#).

Finally, note that forms for feminine/zoic singular are nearly always—but not entirely—syncretic with

⁴[Abbott \(1984, 136\)](#) concludes, citing conversations with Wallace Chafe (p.c.), that “Oneida may be better described as having not two feminine genders but none at all.”

neuter forms, as can be seen in appendix A. The syncretism is shown in (9), and a minimal pair which shows a contrast between neuter and feminine/zoic objects is shown in (10).⁵

- | | | | |
|---|-------------------------|--|-------------------------|
| <p>(9) a. <i>kenòn:we's</i>
 ke-nonhwe'-s
 1SGA-like-HAB
 'I like it(N)'
 b. <i>kenòn:we's</i>
 ke-nonhwe'-s
 1SG>ZSG-like-HAB
 'I like it(z)'</p> | <p>(Martin 2017, 3)</p> | <p>(10) a. <i>ienòn:we's</i>
 ie-nonhwe'-s
 FA-like-HAB
 'she likes it(N)'
 b. <i>konwanòn:we's</i>
 konwa-nonhwe'-s
 F>ZSG-like-HAB
 'she likes it(z)'</p> | <p>(Baker 1996, 20)</p> |
|---|-------------------------|--|-------------------------|

The above discussion is intended to provide an introduction to the featural distinctions relevant in the pronominal prefix system, though details in the featural representation of *animates* are not crucial to the analysis below. The key claim I motivate below is that neuter nominals lack formal person, number, and gender features altogether. This is in line with work on other languages with animate/inanimate contrasts, for example for languages of the Algonquian and Dene families (Oxford 2019; Lochbihler et al. 2021), as well as with Michelson (2015, 278), who describes neuter as a “formally covert gender” in Oneida. Michelson (2015) similarly contends that neuter arguments are never referenced on the verb. An important part of the proposal below will be that despite being identical on the surface, the verb in (9a) involves agreement *only* with the external argument, while the verb in (9b) involves agreement with *both* arguments. We return to motivation for this in section 4.

2.3 Three types of pronominal prefix

Transitive prefixes are reserved for verbs with two animate arguments, indexing the external argument or agent and the “primary object” in the sense of Dryer 1986 (i.e., a monotransitive THEME or ditransitive GOAL/RECIPIENT), as shown by the examples in (23).

- (11) a. *tahatié:na'*
 ta-**rak**-iena-'
 CIS.FACT-MSG>1SG-catch-PUNC
 'he caught me'
 b. *wahá:kon'*
 wa'-**rak**-on-'
 FACT-MSG>1SG-give-PUNC
 'he gave it to me' (Baker 1996, 193)

Northern Iroquoian languages are known for their “split-S” or “active” alignment systems (Mithun 1991), in which intransitive verbs appear with either agent (A) or patient (P) prefixes. A-prefixes appear on certain intransitive verbs, as in (12a), as well as on all *transitive* verbs with an animate agent and an inanimate patient, as in (12b). Patient prefixes, on the other hand, appear on other intransitive verbs, as in (13a), as well as all *transitive* verbs with an inanimate external argument and an animate patient, as in (13b).

⁵Throughout, where a Kanien'kéha form corresponds to multiple possible English translations—e.g., the object in (10b) could correspond to English 'it' or 'her'—the free translation corresponds to one possible reading of the sentence, not the exhaustive list of meanings.

- | | |
|--|--|
| <p>(12) <i>A-prefixes</i></p> <p>a. <i>ieráthens</i>
 ie-rathen-s
 FA-climb.up-HAB
 ‘she climbs up’</p> <p>b. <i>ienòn:we’s</i>
 ie-nonhwe’-s
 FA-like-HAB
 ‘she likes it’</p> | <p>(13) <i>P-prefixes</i></p> <p>a. <i>iakoió’tens</i>
 iako-io’ten-s
 FP-work-HAB
 ‘she works’</p> <p>b. <i>iakoia’takéhnhas</i>
 iako-ia’t-akehnha-s
 FP-body-help-HAB
 ‘it helps her’</p> |
|--|--|
- (Martin 2023b) (Baker 1996, 204)

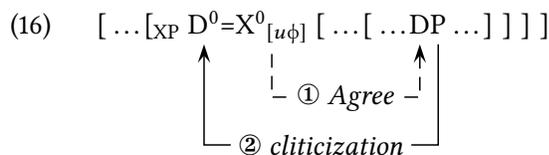
The forms in (12) and (13) provide initial evidence that inanimate arguments behave—for the purposes of the verbal morphology—as if they are not there at all.

In terms of semantically intransitive predicates like (12a) and (13a), A-marking is generally used for subjects of volitional events and inherent properties (see app. B), while P-marking is generally used for non-volitional events and temporary states—but there are exceptions to these generalizations and it is generally agreed that at least some must be lexically specified (Mithun 1991; Baker 1996; Michelson et al. 2016). Baker (1996, §5.4), for example, provides evidence that the choice of agent or patient forms does not correlate with the independently-diagnosable differences between unergative and unaccusative verbs. Baker (1996, 212) shows that both verbs in (14) pattern as unergatives (e.g., disallow incorporation of their single argument), but one requires an agent prefix, while the other requires a patient prefix. Similarly, the verbs in (15) are both syntactically unaccusative, but differ in their pronominal prefix choice.

- | | |
|--|---|
| <p>(14) <i>Unergatives</i></p> <p>a. <i>wa’tahséntho’</i>
 wa’-t-ra-hsenthó-’
 FACT-DUP-MSGA-cry-PUNC
 ‘he cried’</p> <p>b. <i>roió’té’</i>
 ro-io’t-e’
 MSGP-work-HAB
 ‘he works’</p> | <p>(15) <i>Unaccusatives</i></p> <p>a. <i>wahatotáhsi’</i>
 wa’-ra-t-otahsi-’
 FACT-MSGA-SRFL-appear-PUNC
 ‘he appeared (i.e., out of nowhere)’</p> <p>b. <i>wahokè:tohte’</i>
 wa’-ro-ke’toht-e’
 FACT-MSGP-appear-PUNC
 ‘he appeared (i.e., showed up)’</p> |
|--|---|

2.3.1 Agent and patient prefixes and their probes

I propose that the pronominal prefixes are formally *pronominal clitics*; following recent work, I take them to be generated as the result of an Agree relation between a φ -probe bearing unvalued features, represented as $[u\varphi]$, and a nominal argument (Béjar 2003; Preminger 2014). The successful Agree relationship triggers the obligatory creation of a clitic, formally a D^0 head, doubling the nominal in argument position (possibly a null *pro*) (Anagnostopoulou 2003; Preminger 2019).⁶ This is illustrated in (16).



⁶Multiple analyses have been proposed for the details of the clitic doubling mechanism, the specifics of which are not crucial here; see Preminger 2019 for discussion and references. An alternative possibility is that the prefixes are formally *agreement morphemes*—i.e., the morphological spell-out of valued φ -features on the probe. Under assumptions in recent work that φ -Agree underlies both options (see e.g., Kramer 2014; Preminger 2019), either possibility is compatible with the core analysis below.

The analysis of the pronominal prefix morphemes as pronominal clitics—i.e., D^0 heads which adjoin to the verb stem—aligns with the spirit of the Iroquoian literature which describes them as *pronouns*. Analyzing these morphemes as pronominal clitics is also consistent with diagnostics discussed in Baker and Kramer 2018, who discuss the inability of pronominal clitics to double nominals that are quantified, anaphoric, or contain a variable bound by a quantifier; a key point in Baker 1996 is that Kanien’kéha does not have nominals of this sort, compatible with the claim that the pronominal prefixes are in fact pronominal D^0 heads. I continue to refer to the pronominal clitic doubles as “pronominal prefixes” below, noting that pronominal clitics need not be *phonological clitics* (see discussion in Bennett et al. 2018; Akkuş et al. to appear).

I follow Baker (1996) in taking P-prefixes to be the lexically specified or “marked” form for intransitives, with A-prefixes occurring with intransitives otherwise.⁷ To formalize this intuition, I propose that A-prefixes are the result of a φ -probe on a high inflectional head, represented below as Infl^0 , while the probe responsible for generating P-prefixes is located on a lower functional head, v^0 , which creates lexically-specified verbs, such as those in (14b) and (15b). This division of labour is summarized in (17).

(17) *A- and P-prefixes and probes*

pronominal prefix	functional head(s)	φ -probe(s)
agent (A)	Infl^0	$[\text{u}\varphi]\text{A-probe}$
patient (P)	v^0	$[\text{u}\varphi]\text{P-probe}$

The lower placement of the P-prefix probe—i.e., on a head local to the lexical root—aligns with the lexically-specified nature of these forms, as well as the fact that P-prefixes index the highest φ -bearing internal argument, as we will see below. The high placement of the A-probe, on the other hand, is supported by the fact that it targets the highest unagreed-with φ -bearing nominal, as well as the effects of *aspect* on prefix choice, discussed in section 3. In the structures below, I represent Infl^0 as hosting the clause-final aspect markers, though it is also possible that the head bearing the $[\text{u}\varphi]\text{A-probe}$ is finite T^0 . This is possible under proposals in which the optional verb-final tense morphemes like *-kwe’* in (4b) above occupy a T^0 head which is consistently present in the clause though frequently null (see Gatchalian 2025, as well as discussion in app. B).

Recall from (3) above that the pronominal clitics attach immediately to the left edge of the verb stem, which is delineated on the right side by an aspectual suffix and optionally a tense suffix. I assume that the stem is composed of the heads internal to InflP , in line with the Mirror Principle (Baker 1985), and that the clitics move to adjoin to a dedicated clitic position at the left edge of this stem, shown in (18) and discussed further in §2.3.3. Prepronominal prefixes include inflectional morphology higher in the clausal structure (e.g., modal prefixes, negation), which adjoin to the left of the pronominal prefixes.⁸

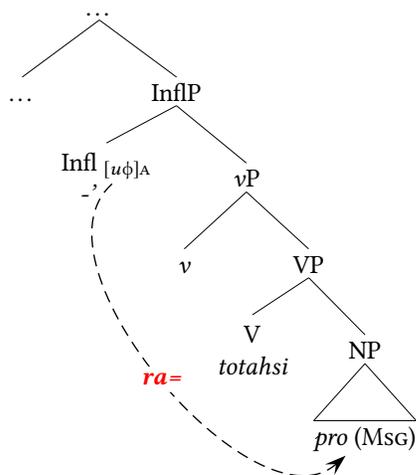
(18) $\dots = \boxed{D^0} = [{}_{\text{INFL}^0} V^0\text{-Voice}^0 + v^0\text{-Asp}^0\text{-T}^0]$

The structures in (19) and (20) illustrate the proposed Agree mechanism for intransitives (here unaccusatives) with A- and P-prefixes, respectively.

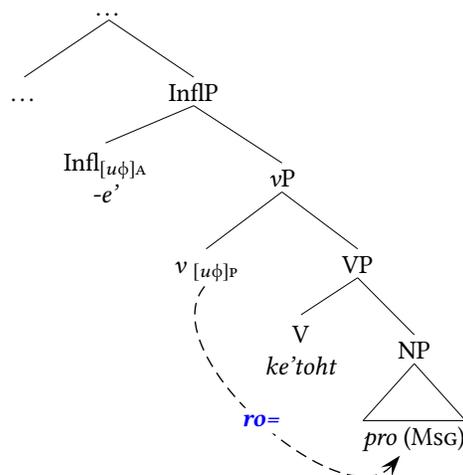
⁷Baker (1996, 217) likens P-prefixes to Icelandic quirky case and locates the feature associated with it on the verb. This is motivated in part by the fact that there are fewer intransitives which require P-prefixes in the perfective and imperfective aspects (Baker 1996; Koenig and Michelson 2015). We return to other motivations for this analysis below.

⁸As a reviewer points out, certain prepronominal prefixes encode meanings typically associated with elements lower in the clausal structure, such as the repetitive and cislocative/translocative forms. Myers (to appear) argues that prefixes like the repetitive are morphological reflexes of null operators lower in the structure, though nothing crucial hinges on this below.

(19) *intransitive; A-prefix = (15a)*



(20) *intransitive; P-prefix = (15b)*



From the bottom up, the verb combines with the single internal argument; here I represent the root as “V” (alternately, it could be a category-neutral root verbalized by the v^0 head). Following recent work in argument structure, I assume the v^0 head defines the type of eventuality of the predicate (e.g., eventive or stative, discussed further in §3; see e.g., [Harley 2017](#) and [Beavers and Koontz-Garboden 2020](#) for discussion of different approaches). A high inflectional head, Infl^0 , hosts the A-prefix-generating probe, represented as $[\text{u}\phi]_{\text{A}}$. In (19), the unvalued features on Infl^0 search the probe’s c-command domain, entering into Agree with the intransitive subject bearing ϕ -features and triggering movement of the pronominal prefix (i.e., clitic double) from the agent series; the clitic adjoins to the left of the stem (see (18)).

Intransitive verbs which are lexically specified to take P-prefixes feature a lower probe $[\text{u}\phi]_{\text{P}}$ on v^0 , as shown in (20). When a root is lexically specified to appear with P-prefixes, I assume it must be selected by the $[\text{u}\phi]_{\text{P}}$ -probe-bearing v^0 (and conversely, this v^0 does not combine with roots not lexically specified for P-prefixes). The factual prepronominal prefix in the forms in (15) adjoins higher in the structure, not shown here.⁹ Crucially, note that the $[\text{u}\phi]_{\text{A}}$ -probe is still present on the Infl^0 head in (20). In order to capture the absence of A-prefix cooccurring with P-prefix, I propose following [Anagnostopoulou \(2003\)](#), [Béjar and Rezac \(2003\)](#), [Preminger \(2009\)](#), and [Coon and Keine \(2021\)](#) that a nominal which has been cliticized is no longer visible for future Agree operations. Furthermore, following [Preminger \(2014\)](#), while probes with unvalued features must initiate search operations, failure to find a goal (as for the $[\text{u}\phi]_{\text{A}}$ -probe in (20)) does not result in a derivational crash. Assuming a bottom-up model of syntactic derivation, this system correctly derives the fact that in cases where more than one probe may potentially access a single goal, the lower probe will always trigger the clitic.

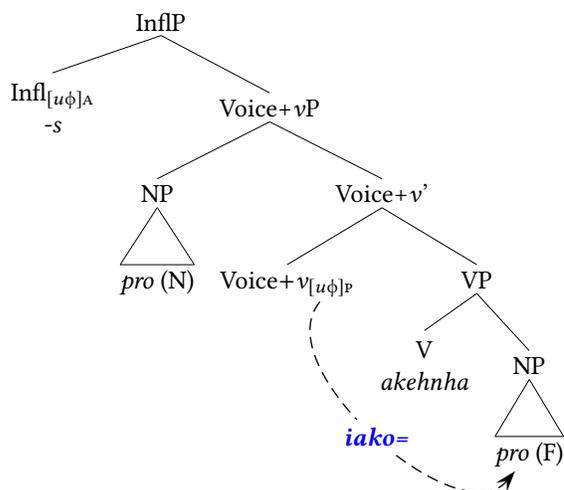
In summary, locating the $[\text{u}\phi]_{\text{P}}$ -probe on a low head, v^0 , is motivated by P-prefixes’ ability to reference the *highest internal argument*, as well as by the need for certain verbs to lexically specify a P-prefix (which can be handled by the local selectional relationship between v^0 and the root). Locating the $[\text{u}\phi]_{\text{A}}$ -probe on a higher functional projection aligns with its ability to reference the highest accessible nominal, as well as by the stative shift pattern discussed in section 3 below. This system, together with the proposal that inanimates bear no ϕ -features, provides a straightforward account of the use of these prefixes in transitive verbs which have only a single animate argument.

For a transitive verb with an inanimate external argument and an animate internal argument, like the one in (13), the $[\text{u}\phi]_{\text{P}}$ -probe enters into Agree with the internal argument, shown in (21). The featureless

⁹I assume that unergative structures are similar except the subject is generated in the specifier of Voice+vP; a lexically-specified $[\text{u}\phi]_{\text{P}}$ -probe on unergative Voice⁰+ v^0 , as in (14b), may cliticize the argument in its specifier (see discussion of spec-head cliticization for transitives below).

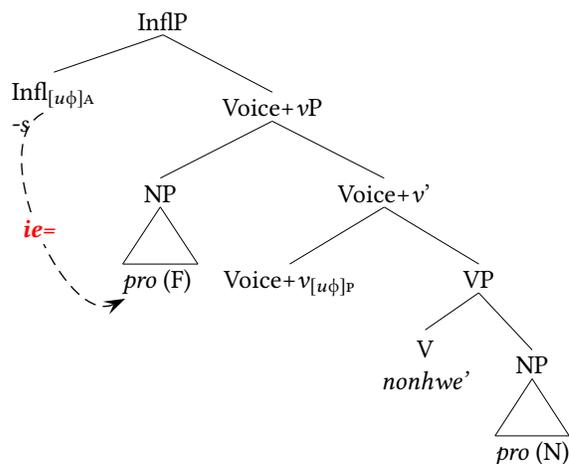
external argument is invisible, and only the P-prefix surfaces (recall that failure to Agree does not crash the derivation).

(21) *transitive with an INAN agent* → *patient prefix* = (13b)



The proposed structure for a transitive verb with an animate external argument and an inanimate internal argument, like the one in (12b), is shown in (22). Recall that these forms appear with *agent* prefixes, which I propose are generated by the $[u\phi]_A$ -probe on Infl⁰. Here the lower $[u\phi]_P$ -probe finds no goal; the inanimate object is syntactically present and interpreted by the semantics, but due to its lack of ϕ -features, it is invisible to the agreement system. The higher $[u\phi]_A$ -probe enters into Agree with the agent in Spec, VoiceP, correctly resulting in the A-prefix.

(22) *transitive with an INAN patient* → *agent prefix* = (12b)



The two probes in (17), combined with the proposal that inanimates are featureless, thus captures the patterns for verbs with only a single animate argument, whether they are transitive or not.

2.3.2 Transitives with animate arguments

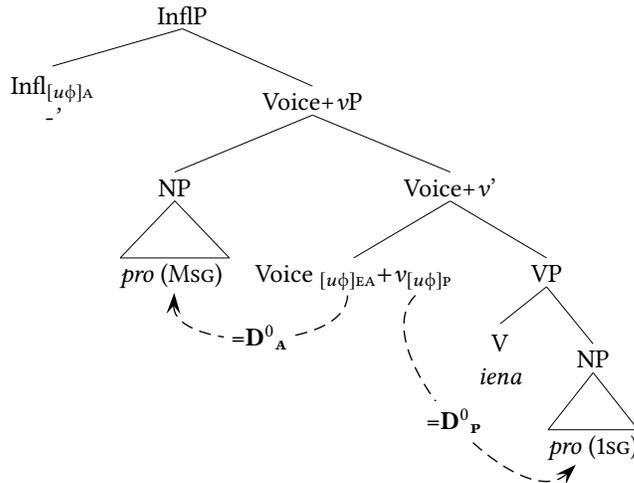
Transitive pronominal prefixes are found on verbs with two animate arguments and index features of the external argument (i.e., the agent or most agent-like argument), as well as the *primary object* in the sense of Dryer (1986). The primary object is the patient or most patient-like argument of a monotransitive, as

in (11a), or the applied argument of a ditransitive, as in (11b) (we return to verbs with multiple objects in §4). While in many cases there are pieces of transitive morphemes that can be segmented into features of one argument or the other (Lounsbury 1953; Bonvillain 1973), these are often treated as portmanteaux. The gloss X>Y indicates a subject with X features and a primary object with Y features.

- (23) a. *wa'tkonréhnsaron'*
 wa'-t-**kon**-renhsaron-'
 FACT-DUP-1SG>2SG-praise-PUNC
 'you praised me'
- b. *tshisenihró:ris*
tshiseni-hrori-s
 2DU>MSG-tell-HAB
 'you(DU) tell him' (Martin 2023b)

Transitive prefixes, then, require the agreement mechanisms to reference both the external argument and the highest internal argument (i.e., the primary object). Formally, I take the transitive prefixes to be the result of clitics generated by φ -probes located on a “bundled” $\text{Voice}^0 + v^0$ head, shown in (24). The fact that the $[\text{u}\varphi]_A$ -probe is *not* involved in the formation of the transitive prefixes will be important to the analysis of statives in section 3. In particular, I will argue below that the probes responsible for the generation of transitive prefixes must be located below the head responsible for aspectual contrasts, here Infl^0 .

- (24) *transitive with two ANIM arguments* \rightarrow *transitive prefix* =(11a)



I propose that the bundled $\text{Voice}^0 + v^0$ head exhibits properties of both v^0 and Voice^0 ; see Pylkkänen 2008; Harley 2017. While intransitive v^0 may be lexically specified for a $[\text{u}\varphi]_P$ -probe, the v^0 head in transitives always hosts a $[\text{u}\varphi]_P$ -probe; transitive Voice^0 introduces the external argument (Kratzer 1996) and hosts a second probe which enters into Agree with the external argument in its specifier, here labelled $[\text{u}\varphi]_{EA}$. The two clitics generated by these Agree relations are then local to one another and therefore able to undergo idiosyncratic feature impoverishment and morphological merger processes (Marantz 1988; Embick and Noyer 2001), resulting in the opacities and systematic syncretisms in the transitive prefix system, shown in appendix A. The system proposed here is also consistent with the fact that—to the extent that some of the transitive prefixes are decomposable into distinct agent and patient components—the component corresponding to features of the agent typically precedes the component corresponding to features of the patient (see e.g., Bonvillain 1973, 139). For the derivation in (24), the clitics corresponding to the masculine singular agent and the 1st person singular patient result in the MSG>1SG form *rak-* (in this particular

case, decomposable into *ra* [MASC] and *k* [1SG] components).¹⁰

External argument agreement of the type represented in (24) is familiar from work on languages with ergative agreement (see Wiltschko 2006 on Halkomelem Salish and Coon 2017; Coon et al. 2021 on Mayan). Following discussion in Coon et al. 2021 for ergative agreement in Mayan, I assume that unvalued features on $[\text{u}\varphi]_{\text{EA}}$ enter into Agree with the external argument as a direct consequence of a feature sharing relationship established during merge (i.e., there is no “probing” in the typical sense). This can be thought of as “inherent agreement”, on par with inherent ergative case. Finally, note that just as with intransitives lexically specified for P-prefix, like those in (15b)/(20), the $[\text{u}\varphi]_{\text{A}}$ -probe is still present on Infl^0 in the transitive structure in (24). The fact that cliticization renders nominals invisible to future Agree operations ensures that the higher $[\text{u}\varphi]_{\text{A}}$ -probe will find no goal.

Transitives in which *only* the external argument is animate, like the one in (22) above, require a specific proposal about the $[\text{u}\varphi]_{\text{EA}}$ -probe on Voice^0 : I propose that it is only present when the $[\text{u}\varphi]_{\text{P}}$ -probe successfully finds a goal. In a derivation like (22), then, the $[\text{u}\varphi]_{\text{P}}$ -probe finds no goal, which in turn means that no $[\text{u}\varphi]_{\text{EA}}$ -probe is present. The claim that the $[\text{u}\varphi]_{\text{EA}}$ -probe is derivationally dependent on the success of the $[\text{u}\varphi]_{\text{P}}$ -probe finds precedent in the literature on ergativity, and in particular on proposals that ergative case is either a *dependent* or *inherent* case, both of which appeal to some notion of *transitivity* such that ergative case is assigned only when an internal argument is present (see e.g., Baker and Bobaljik 2017; Legate 2017 for discussion). Restricting the $[\text{u}\varphi]_{\text{EA}}$ -probe—which can be thought of as an *ergative* agreement probe insofar as it references only transitive subjects—to operating only when the $[\text{u}\varphi]_{\text{P}}$ -probe successfully finds a goal in the internal argument, is a natural way of capturing this connection.¹¹

The three φ -probes proposed to underlie the pronominal prefixes are summarized in (25): a probe on an inflectional head Infl^0 is responsible for agent prefixes, a probe on v^0 is responsible for patient prefixes, and a probe on transitive Voice^0 is responsible (together with the v^0 probe) for transitive prefixes, summarized in (17). These may be thought of as corresponding roughly to nominative, accusative, and ergative agreement, respectively.

¹⁰See Béjar and Rezac 2009 for an account which decomposes a subset of the transitive prefixes into individual morphological components. They situate the probe responsible for transitive prefixes on v^0 and propose a Cyclic Agree model which allows it to access both internal and external arguments (in some cases requiring the insertion of an additional probe to agree with and thereby license features of the external argument). Their focus is on the realization of an element they analyze as an inverse marker. My proposal here shares with Béjar and Rezac’s account that the transitive prefixes are created by probes fully within the lower argument structure domain of the clause (internal to VoiceP), and in this sense, the larger claims of this paper are compatible with a Cyclic Agree approach. However, their work considers only a subset of the transitive paradigm shown in appendix A, some of which does not align with other descriptions of the language (e.g., they give *k-* as 1SG>MSG, and *hs-* as 2SG>MSG, when these should in fact be 1SGA and 2SGA, respectively).

Here I take the approach of work such as Oxford 2019, which locates inverse morphology and hierarchical alignment not as the result of special syntactic operations, but rather in the morphology. For Oxford, the Algonquian “inverse” morpheme also analyzed by Béjar and Rezac is not the result of an added probe, but rather of post-syntactic feature impoverishment. Though details remain to be worked out for Kanien’kéha, I suggest that a similar approach could be applied to capture the patterns of syncretism and apparent inverse forms in the paradigm in appendix A, without appeal to an added probe or Cyclic Agree.

Relatedly, a reviewer notes that while this proposal may capture the fact that transitive MSG>1SG *ra-* is decomposable into *ra-* (MSG) and *k-* (1SG), it does not obviously capture the fact that *ra-* is also the masculine singular *agent* prefix, which I take to be generated by finite Infl^0 —i.e., not involved in the formation of transitives. Given the effects of aspect on prefix choice in §3, I maintain that these patterns are best handled by the morphology, and that there is nothing incompatible with claiming that *ra-* is a Vocabulary Item associated with masculine singular features in clitics created by both the $[\text{u}\varphi]_{\text{A}}$ -probe and the $[\text{u}\varphi]_{\text{EA}}$ -probe.

¹¹Specifically, I suggest that while transitive v^0 always bears a $[\text{u}\varphi]_{\text{P}}$ -probe, there are different “flavours” of Voice^0 , some of which lack a $[\text{u}\varphi]_{\text{EA}}$ -probe. When the $[\text{u}\varphi]_{\text{P}}$ -probe on v^0 fails to find a goal, the probe-less variant of Voice^0 is merged. This reduces the presence of absence of the $[\text{u}\varphi]_{\text{EA}}$ -probe to a local selectional relationship. Reflexive and “semi-reflexive” morphemes may be candidates for overt instantiations of probeless Voice^0+v^0 heads, as these verb forms *always* show A-prefixes; see Baker 1996, 5.2.3 and §4 below for discussion and Martin 2023b for additional examples.

(25) *Pronominal prefixes and probes*

pronominal prefix	functional head(s)	φ -probe(s)
agent (A)	Infl ⁰	[u φ]A-probe
patient (P)	v ⁰	[u φ]P-probe
transitive	Voice ⁰ +v ⁰	[u φ]EA-probe+[u φ]P-probe

This system, together with the proposal that inanimate nominals bear no φ -features, provides a straightforward account of the appearance of A- and P-prefixes on transitive predicates with only a single animate argument, like those in (12b) and (13b) above. Additional evidence that these morphological forms involve the true *absence* of agreement (rather than, say, agreement with an inanimate which triggers a null morpheme) comes from default forms.

2.3.3 Default forms

Further evidence for the proposal that neuter arguments lack features altogether comes from “default” or what I will call “expletive” pronominal prefix forms, discussed in a range of work on Northern Iroquoian (Baker 1996; Koenig and Michelson 2015). First consider the intransitives in (26), in which the single argument is inanimate, and the verb appears with a prefix glossed as “neuter”: NA for “neuter agent” in (26a) or NP for “neuter patient” with the patient-prefix selecting form in (26b).¹²

- (26) a. *wa'kaién:ta'ne' ne atià:tawi*
 wa'-ka-ienta'n-e' ne atia'tawi
 FACT-NA-land-PUNC NE shirt
 ‘the shirt landed (on the ground)’ (Martin 2023a)
- b. *iohni:ron's ne anitskwahra'shòn:'a*
 io-hnir-on's ne anitskwahra'-shon'a
 NP-hard-STAT.PL NE chair-DISTR
 ‘the chairs are hard’ (adapted from Baker 1996, 386)

At a first glance, one could imagine that the prefixes in (26) are the result of the [u φ]A-probe and [u φ]P-probe proposed for intransitives entering into agreement with the neuter subjects, *ne atià:tawi* ‘the dress’ and *ne anitskwahra'shòn:'a* ‘the chairs’. However, evidence that the prefixes in (26) are not dedicated *neuter prefix* forms comes from verbs which have *no* arguments accessible to agreement. For example, unaccusative forms in which the single argument has incorporated into the verb occur with the same prefixes, as shown by the examples in (27).

- (27) a. *ontia'tawi'tsheraién:ta'ne'*
 wa-w-atia'wi'-tsher-a-ienta'n-e'
 FACT-NA-shirt-NMLZ-JR-land-PUNC
 ‘the shirt landed (on the ground)’
- b. *ionitskwahrahtsherahni:ron's*
 io-nitskwahr-a-htsher-a-hnir-on's
 NP-chair-JR-NMLZ-JR-hard-STAT.PL
 ‘the chairs are hard’ (Martin 2023a)

Assuming that incorporated nominals are not viable goals for agreement, we have another domain in

¹²Kanien'kéha speakers consulted prefer these examples (and others below with freestanding themes) with the themes incorporated into the verb, as in (27). This aligns with the proposal by DeCaire et al. (2017) that incorporation takes place by default when possible, and that “excorporated” forms like those in (26) are possible only in specific information-structural contexts.

which neuter arguments (like the subjects in (26)) are treated on par with the absence of an argument altogether.¹³ Koenig and Michelson (2015) make a similar point for Oneida with “medadic” or weather verbs, which also require the Oneida equivalents of the agreement forms in (27).

My choice to gloss these as “NA” and “NP” departs from the glosses of equivalent Oneida forms in Koenig and Michelson (2015), who label the default form of agreement in forms equivalent to (26) as “feminine/zoic”, and propose that there is no morpheme corresponding to neuter agreement. This is the topic of the first of four generalizations they propose, shown in (28).

(28) K&M’s GENERALIZATION 1: “All verbs must have a pronominal prefix, which, by default, is a 3rd-person feminine/zoic prefix.”

Recall that singular feminine/zoic forms are nearly—but not always—syncretic with neuter forms. In this paper, I reserve the zoic gloss for verbs with true zoic arguments (see §2.2), and use ‘NA’ and ‘NP’ to represent the default forms. An important distinction between the two is that while feminine/zoic forms include a number contrast, neuter does not. As Koenig and Michelson (2015) note, even inanimates which are clearly plural, as in the Kanien’kéha example in (26b) above, appear with the neuter default forms, not with a feminine/zoic plural form. Ultimately, my choice of glossing aligns with the larger point in Koenig and Michelson 2015, and with their motivation for glossing these as zoic: there is no such thing as true “neuter agreement”, and in the absence of an animate argument, the default form surfaces.

I follow Baker (1996, §7.4.2) in analyzing the default pronominal prefix forms like those in (27) as expletives, and on par with expletive subject clitics. While subject clitics appear to be less common than object clitics among the world’s languages, some subject-clitic languages are shown to use clitics in expletive subject environments, as in the Friulian and Spoken French examples in (29).¹⁴

(29) a. **Al=** plof.
SUBJ.CL rains
‘It’s raining.’ (Friulian; Poletto and Tortora 2016, 782)

¹³As only inanimates can incorporate, the claim that incorporated nominals do not trigger agreement is not widely testable. However, as Baker (1996) discusses, support for the claim that incorporated nominals are inaccessible to agreement comes from alternations like the one in (i). Certain nominals, like *owirá:’a* ‘baby’, may behave formally as animate or inanimate. The non-incorporated form in (ia) appears with a transitive prefix indicating an animate plural patient. When the root *wir* is incorporated in (ib), a transitive prefix is judged as degraded. Baker (1996) notes there is some variation in judgments in forms like (ib), though textual examples with noun incorporation typically lack agreement.

(i) a. *Shakonòn:we’s* (*ne owirá:’a*).
shako-nonhwe’-s (*ne owirá’a*)
MSG>3PL-like-HAB NE baby
‘He likes them (babies).’
b. *Rawiranòn:we’s*.
ra-wir-a-nonhwe’-s
MSGA-baby-JR-like-HAB
‘He likes babies.’ (Baker 1996, 316)

¹⁴Preminger (2009) argues that the presence or absence of a default form is a diagnostic for whether or not an argument-indexing morpheme is a pronominal clitic or a reflex of morphological agreement. According to Preminger, clitic-inducing probes should not result in default forms, while morphological agreement-triggering probes may.

Baker and Kramer (2018) argue against one half of this bidirectional, noting that the absence of a form could indicate *either* that no form has been inserted (as Preminger proposes for cliticization), *or* that a phonologically null form is present (compatible with morphological agreement), and thus no conclusions can be drawn from a lack of a morpheme. Furthermore, much of the literature on distinguishing morphological agreement from pronominal clitics focuses on the behaviour of *objects*. The existence of expletive clitics in subject-clitic languages like those in (29) casts further doubt on Preminger’s correlation: “default” forms may result from the failure of an agreement-inducing probe, *or*—at least in the case of subject clitics—expletive insertion of a clitic. I am grateful to Mark Baker for discussion of this topic and for suggesting the connection to the subject clitic literature.

- b. Et là, **i=** reste plus qu'un croissant.
 and there SUBJ.CL remains more than.one croissant
 'And there, there's more than one croissant left.' (Spoken French; Culbertson and Legendre 2014, 88)

Of course, in Split-S Kanien'kéha, expletive subject clitics come in two possible forms: agent (NA) and patient (NP). A successful analysis of these constructions must capture the fact that (i) verbs lexically specified for P-prefixes will show the expletive patient form, and (ii) only a single pronominal prefix is ever present on a stem (in other words, we need to rule out a scenario in which both $[u\varphi]_P$ -probe and $[u\varphi]_A$ -probe produce default forms).

First, I propose that the lexically-specified $[u\varphi]_P$ -probe differs from the $[u\varphi]_P$ -probe found on regular transitive verbs in *always* resulting in a clitic, ensuring that the neuter patient form (i.e., *io-* in (27b)) will always surface in the absence of an accessible animate goal. Some evidence for this comes from a relatively small set of transitive verbs discussed in Baker 1996 which are lexically specified to index their *agents* with a patient prefix—but only when the patient is inanimate. In the transitive form in (30a), the masculine plural agent is indexed using the patient clitic; however, when both arguments are animate, as in (30b), the expected transitive prefix appears.¹⁵

- (30) a. *ia'thonón:ko'*
 i-a'-t-**ron**-onko-'
 TRANS-FACT-DUP-MPLP-bump-PUNC
 'they bumped it' (Baker 1996, 200)
- b. *ia'tekheia'tón:ko'*
 i-a'-te-**khe**-ia't-onko-'
 TRANS-FACT-DUP-1SG>F-body-bump-PUNC
 'I bumped her' (Baker 1996, 217)

These forms provide evidence that the lexically-specified $[u\varphi]_P$ -probe behaves differently than the $[u\varphi]_P$ -probe found on regular transitives. In a transitive like (12b)/(22) above, an animate internal argument results in failure of the $[u\varphi]_P$ -probe and an agent prefix indexes the animate subject. The lexically-specified $[u\varphi]_P$ -probe found on certain transitive and intransitive v^0 s, however, is different: it creates a P-prefix in all constructions. In a transitive like (30a), it will enter into Agree with the agent (compatible with the proposal that v^0 and Voice⁰ are fused into a single head), and in the absence of any accessible goal, as in (26b) and (27b), it will result in the default form.

Finally, to capture the fact that only a single pronominal prefix is ever present on a Kanien'kéha stem (i.e., the default A-prefix is only inserted in the absence of any other prefix), I propose that clitics must move to occupy a single dedicated (and obligatorily filled) position at the left edge of the stem, as schematized in (18) above, repeated in (31). Recall that Infl⁰ ultimately hosts the stem created by the concatenation of heads terminating in the aspectual suffix or an optional tense suffix.

$$(31) \quad \dots = \boxed{D^0} = [{}_{\text{INFL}^0} V^0\text{-Voice}^0 + v^0\text{-Asp}^0\text{-T}^0]$$

¹⁵The form in (30a) unambiguously indicates an animate agent and an inanimate theme, since an animate theme would require incorporation of the nominal root *ia't* 'body', as in (i), discussed further in section 4. Thanks to a reviewer for raising this question.

- (i) *ia'thonia'tón:ko'*
 i-a'-t-**ron**-ia't-onko-'
 TRANS-FACT-DUP-MPLP-body-bump-PUNC
 'it bumped them' (McDonald 2025)

This proposal is in line with Baker’s (1996, 217) suggestion that the generalization that all stems have a pronominal prefix can be related to an EPP requirement. This also parallels Arregi and Nevins’ (2012) discussion of what they term a “T-noninitiality” requirement in Basque, in which finite auxiliaries must be preceded by a clitic. Typically, this initial clitic position is filled by an absolutive clitic in Basque, but in the absence of an absolutive clitic, an ergative clitic or an *expletive* clitic may be inserted (their “L-support”; Arregi and Nevins 2012, 5.4). In Kanien’kéha, if a patient or transitive prefix has been created by the probes internal to Voice+vP, this clitic will move to occupy the clitic position at the left edge of the stem. If the lower probes fail, the $[u\phi]_A$ -probe on Infl^0 may either find a goal and move the resulting A-prefix to the clitic position, or, in the absence of any goal, will generate a default form, just as in the Romance examples in (29) above and Basque L-insertion.

2.4 Interim summary

To summarize what we have seen to this point, Kanien’kéha verbs all appear with a single pronominal prefix chosen from one of three sets: agent, patient, or transitive. Importantly, though, transitive prefixes are reserved for verbs with two *animate* arguments; inanimates are ignored by the verbal morphology. This corresponds to the second generalization from Koenig and Michelson 2015, given in (32).

- (32) K&M’S GENERALIZATION 2: “All and only (distinct) animate semantic arguments are referenced by pronominal prefixes.”

I formalized this generalization with the proposal that inanimate arguments are present in the syntactic derivation, but lack ϕ -features altogether, and are therefore completely invisible to the pronominal clitic system driven by the three ϕ -probes above. Specifically, I proposed that the prefixes are generated by ϕ -probes located on the functional heads Infl^0 ($[u\phi]_A$ -probe), Voice^0 ($[u\phi]_{EA}$ -probe), and v^0 ($[u\phi]_P$ -probe), as in table (17) above. Once an argument has undergone cliticization, it is no longer accessible to higher probes. This fact, together with the proposal that clitics adjoin to an obligatorily-filled clitic position at the left edge of the stem delineated by Infl^0 , correctly captures the distribution of expletive forms.

With these basics in place, the next two sections tackle the puzzles which correspond to Koenig and Michelson’s third and fourth generalizations, respectively. I argue that these generalizations provide additional support to the claim that inanimate nominals bear no ϕ -features and therefore do not participate in the agreement system—a conclusion which will raise problems for the *Polysynthesis Parameter*. Contra conclusions in Koenig and Michelson (2015), however, I also argue that these puzzles do not require any special claims about the nature of argument structure in Northern Iroquoian languages—and indeed, the patterns in section 4 rely on a hierarchical configuration of arguments.

3 Stative shift

Pronominal prefix patterns in the stative aspect lend additional support to the proposal that inanimates lack ϕ -features. This relates to the third generalization about prefix distribution in Northern Iroquoian discussed in Koenig and Michelson 2015, shown in (33).

- (33) K&M’S GENERALIZATION 3: “Polyadic verbs with only one animate semantic argument behave like monadic or medadic predicates with respect to pronominal prefix selection.”

The generalization in (33) effectively states that inanimate arguments are invisible to the pronominal prefix system, a conclusion at odds with the Morphological Visibility Condition proposed by Baker (1996) to underlie polysynthesis, discussed below in section 5. As Koenig and Michelson (2015) show, this generalization goes beyond the basic patterns we saw in the previous section.

Recall that forms for feminine/zoic are nearly always syncretic with neuter forms; compare the forms in (34), repeated from (9).

- (34) a. *kenòn:we's*
ke-nonhwe'-s
 1SGA-like-HAB
 'I like it(N)'
 b. *kenòn:we's*
ke-nonhwe'-s
 1SG>ZSG-like-HAB
 'I like it(z)' (Martin 2017, 3)

Despite their surface similarity, however, these forms are claimed to differ in terms of the nature of the pronominal prefix. In the transitive with the inanimate object in (34a), the verb *does not* agree with the object and we have an intransitive (A-series) prefix. In the transitive with the feminine/zoic object in (34b), on the other hand, the verb *does* agree with its animate object. This, then, is a transitive prefix which happens to be syncretic with the A-prefix.

Koenig and Michelson (2015) argue for this conclusion based in part on an alternation in the stative aspect in Oneida, a Kanien'kéha equivalent of which is shown in (35).

- (35) *wakarahsénthon*
wak-arahsenthon-on
 1SGP-kick-STAT
 (i.) 'I have kicked it(N)' **or**
 (ii.) 'it(N/z) has kicked me' (Martin 2023a; McDonald 2023)

As indicated by the translations, this form is ambiguous: the patient pronominal prefix tells us that *one* argument is animate (here 1st person singular), but not which one. Koenig and Michelson (2015) use the stative facts described in this section as part of their argument that Northern Iroquoian languages lack a level of syntactic argument structure, concluding that “morphological referencing of animate semantic arguments is a purely inflectional process in Oneida, with no syntactic reflex” (pg. 42). In other words, for them the ambiguity in (35) is related to the fact that only a single intransitive morphological prefix form is available in the stative, and it can be associated with either an agent or a patient.

I argue that the formal ingredients proposed above, together with an independently-motivated proposal about the nature of the stative aspect, are able to capture the patterns under standard assumptions about argument structure. Crucially, however, capturing the pattern relies on the claim that despite their frequent syncretism, inanimates can be distinguished from feminine/zoic nominals in not entering into Agree at all. As foreshadowed above, this conclusion is incompatible with the basic principle underlying the Polysynthesis Parameter.

3.1 Patient prefixes in the stative aspect

In section 2.3 we observed the split-S pattern found in Kanien'kéha intransitives: some intransitive verbs are specified to take P-prefixes (see (14b), (15b)), while others appear with A-prefixes ((14a), (15a)). Importantly, however, verbs which show aspectual alternations show a different pattern in the *stative aspect*: for verbs which appear in all three aspects (i.e., eventive verbs), A-prefixes are *never* available in stative verb forms (see appendix B on the use of A-prefixes with certain “stative-only” forms).

Kanien'kéha's three-way aspectual contrast noted in section 2.1 is shown in (36). Here we see that the intransitive verb *atori* 'drive' appears with agent prefixes in the perfective (aka “punctual”) and imperfec-

tive (aka “habitual”) aspects in (36a)–(36b). In the stative aspect form in (36c), however, a pronominal prefix from the patient set appears. This is a regular alternation for all verbs which show aspectual alternations (Deering and Delisle 1976; Mithun 1991; Koenig and Michelson 2015).

- (36) a. *wa’kató:ri’*
 wa’-**k**-atorí-’
 FACT-1SGA-drive-PUNC
 ‘I drove’
 b. *katórie’s.*
k-atoríe-’s
 1SGA-drive-HAB
 ‘I drive’
 c. *wakatórion*
wak-atorí-on
 1SGP-drive-STAT
 ‘I have driven’ (DeCaire 2016)

The absence of A-prefixes in the stative aspect also has an effect on transitive verbs with inanimate internal arguments. Recall that transitive verbs with inanimate objects appear with A-prefixes in perfective and imperfective aspects, as in (37a). Just as intransitives which take A-prefixes switch to P-prefixes in the stative, so too transitive verbs with neuter patients must take a P-prefix in the stative, shown in (37b).

- (37) a. *karahsénthos*
k-arahséntho-s
 1SGA-kick-HAB
 ‘I kick it(N)’
 b. *wakarahsénthon*
wak-arahséntho-on
 1SGP-kick-STAT
 ‘I have kicked it(N)’ (Martin 2023a; McDonald 2023)

The table in (38) illustrates the distribution of transitive, agent, and patient prefixes for verbs which show aspectual alternations. Verbs with two animate arguments consistently appear with transitive prefixes, available in all three aspects. Similarly, intransitives which lexically select for patient prefixes, together with transitives in which only the internal argument is animate, consistently appear with patient prefixes across all three aspects. However, verbs which take *agent* prefixes in perfective and imperfective aspects—i.e., certain intransitives as well as transitives with inanimate internal arguments—reference their sole animate argument with *patient* prefixes in the stative aspect.

(38) *Stative aspect prefix alternations*

	ANIM>ANIM	ANIM _P	INAN>ANIM	ANIM _A	ANIM>INAN
PFV	TRANS	PAT	PAT	AGT	AGT
IPFV	TRANS	PAT	PAT	AGT	AGT
STAT	TRANS	PAT	PAT	PAT	PAT

Foreshadowing details of the analysis below, I argue that this distribution supports the claim from section 2 that the probes necessary to create both transitive and patient prefixes are located *below* aspect (and are thus unaffected by aspectual alternations), while the [uφ]_A-probe is located higher.

3.2 Accounting for stative shift

In order to formally account for the shift to P-prefixes, I follow the line of analysis proposed for Kanien’kéha by Ormston (1993) and Baker and Travis (1998): the stative aspect is not a grammatical aspect on par with the perfective and imperfective—that is, it does not occupy the Infl^0 head. Rather, it is a (light, phonologically bound) *verb* with its own argument structure.

Baker and Travis (1998) argue that forms such as those in (39) provide initial evidence that the stative suffix behaves more like a *derivational* morpheme: unlike the imperfective and perfective suffixes, the stative can appear on incorporated elements, and *inside* of other derivational and aspectual morphology.

- (39) a. *tsi iakenheion’taiéntáhkhwá’*
tsi iak-enhei-on-’t-a-ien-t-a-hkw-ha’
 where FA-die-STAT-NMLZ-JR-lie-CAUS-JR-INST-HAB
 ‘hospital’; lit.: ‘place where one lays out the ones who have died’
- b. *wakenatahronhátié’s*
wake-natar-on-hatie’-s
 1SGP-visit-STAT-go.around-HAB
 ‘I am going around visiting (several places)’ (Baker and Travis 1998, 166)

The analysis they provide of these forms, however, is not without question.¹⁶ For example, the form *enhei* ‘die’ belongs to a small class of verbs which appears with the suffix *-on* in both the stative and habitual aspects, making the parse in (39a) not the only possible analysis. In a similar vein, the glosses of both *-hatie’* and *-s* could be questioned; Baker and Travis’s gloss of *-hatie’* in (39b) suggest that it is a lexical verb, though this is also glossed as ‘progressive’ in other work. The final *-s* is glossed as ‘habitual’ (and is indeed one common allomorph of the habitual aspect), but *-s* is also described as a form of the ‘distributive’ morpheme for stative forms, which Michelson and Price (2011, 111) note “indicates that the attribute or quality is being ascribed to several objects” (as the ‘several places’ parenthetical indicates).

The new form in (40) better illustrates that their larger point can nonetheless be maintained. This form involves the nominal root *tsikhe’ta* ‘candy’ incorporated into the stative form *hniron* ‘be hard’; this stem is then nominalized, and incorporated into the verb *k* ‘eat’, which is inflected with the habitual aspect. While the presence of stative morphology inside a nominalized form does not provide knock-down evidence for the verbal nature of this morpheme (e.g., a reviewer notes the existence of clausal nominalizations), importantly in Kanien’kéha, the habitual and punctual aspect morphemes are never found word-internally.

- (40) *ktsikhe’tahnirón’tseraks*
k-tsikhe’ta-hnir-on-’tser-a-k-s
 1SGA-candy-hard-STAT-NMLZ-JR-eat-HAB
 ‘I eat hard candy.’ (McDonald 2025)

The root *hnir* in (40) belongs to a set of roots that *only* appear in the stative aspect (“stative-only verbs”), shown by the forms in (41). Baker and Travis (1998) argue that these offer further support for the verbal status of the stative aspect. Specifically, Baker and Travis (1998)—elaborated further in Baker 2003—propose these roots are *adjectival* and requires the use of a light verb (i.e., the stative head) in order to predicate.¹⁷

¹⁶I thank Akwiratékha’ Martin, Karin Michelson, Terrance Gatchalian, and Chase Boles for discussion.

¹⁷The claim that Kanien’kéha has a class of adjectival *roots* is compatible with the general claim that Northern Iroquoian languages lack a surface category of adjectives (Chafe 2012; Michelson to appear). As discussed at length in Baker 2003, 4.6.3, Kanien’kéha is a language in which adjectival roots must be derived into surface predicational structures. Ultimately, the status of adjectives is not central to the larger points here.

- (41) a. *iohní:ron*
 io-hnir-**on**
 NP-hard-STAT
 ‘it is hard’
 b. ***io**-hnir-ha’
 NP-hard-HAB
 c. *wa’-**o**-nir-e’
 FACT-NP-hard-PUNC (Baker and Travis 1998, 167)

As Ormston (1993) and Baker and Travis (1998) note, the proposal that the stative suffix is in fact itself a verbal element provides us with a natural means to account for the stative prefix shift: the stative verb is *lexically specified* to trigger P-prefixes. The exact identity of the stative head is not critical, so long as it bears a P-prefix-generating probe. Following the spirit of this line of analysis, I represent the stative suffix as spelling out a stative v_{BE}^0 head, which always bears a $[u\phi]_P$ -probe. For stative-only verbs, this head may combine directly with an adjectival root to derive a stative interpretation, as in (41a).

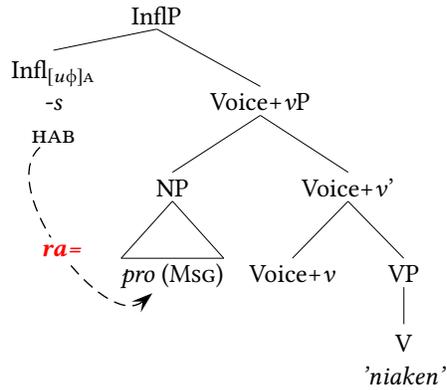
To derive *perfect* interpretations found with verbs that show aspectual alternations, like (36c) above, I propose that this head combines with what is effectively a small clause complement, containing the argument structure up through the highest argument (VoiceP or vP), but not the aspectual Infl^0 layer. Importantly, this is in line with the meaning of these perfect forms: for Comrie (1976, 52), for example, the perfect denotes a state which “indicates the continuing present relevance of a past situation” (see Bertrand et al. 2022 for general discussion as well as Michelson 1975, Cross et al. to appear, and Gatchalian in prep on the semantics of the Kanien’kéha stative).

The treatment of the suffix found in the derivation of *perfect* interpretations as a stative light verb also aligns with the intuition of Mithun (2006b), who notes that an imaginable motivation behind the pattern exemplified in (42)–(43) is that “the person involved in *he has escaped* is not now actively instigating an action, simply experiencing the result of a previous event.” In other words, while the imperfective form in (42) denotes an *event* of escaping, the stative perfect form in (43) denotes a state of having escaped. This aligns with more general properties of the split-S system (Mithun 1991).

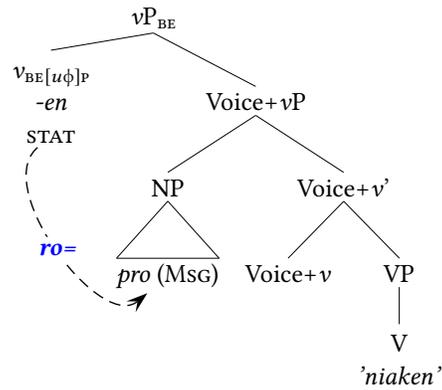
- | | |
|--|---|
| <p>(42) <i>ra’niá:ken’s</i>
 ra-’niaken’-s
 MSGA-escape-HAB
 ‘he escapes’</p> | <p>(43) <i>ro’niakèn:’en</i>
 ro-’niaken’-en
 MSGP-escape-STAT
 ‘he has escaped’ (Mithun 2006b, 198)</p> |
|--|---|

In section 2.3 I proposed the structure in (44) for an intransitive with an A-prefix, like the one in (42). The head responsible for the two-way perfective~imperfective grammatical aspect contrast, Infl^0 , bears the probe which creates the A-prefix. However, according to the proposal laid out here, the Infl^0 head is absent from the complement of the stative v_{BE}^0 head. Instead, stative v_{BE}^0 merges directly with the Voice+ vP and its $[u\phi]_P$ -probe enters into Agree with the sole argument, triggering a patient prefix, illustrated in (45).

(44) Imperfective intransitive (= (42))



(45) Stative intransitive (= (43))



Because the v_{BE}^0 “stative” head merges directly with Voice+vP (or vP in an unaccusative), the wholesale absence of A-prefixes on these forms is predicted (see the table in (38)). Specifically, regardless of whether or not a higher $[u\phi]_A$ -probe-bearing Infl^0 head is present (see relevant discussion in appendix B), the bottom-up nature of the derivation will ensure that the P-prefix wins out.

We are now in a position to understand the ambiguous stative form from (35) above, repeated in (46). Recall that in transitive forms with only a single animate argument, the P-prefix consistently references the animate argument in the stative aspect, regardless of whether that is the agent, as in reading (i.), or the patient, as in (ii.).

(46) *wakarahsénthon*

wak-arahsenthon-on

1SGP-kick-STAT

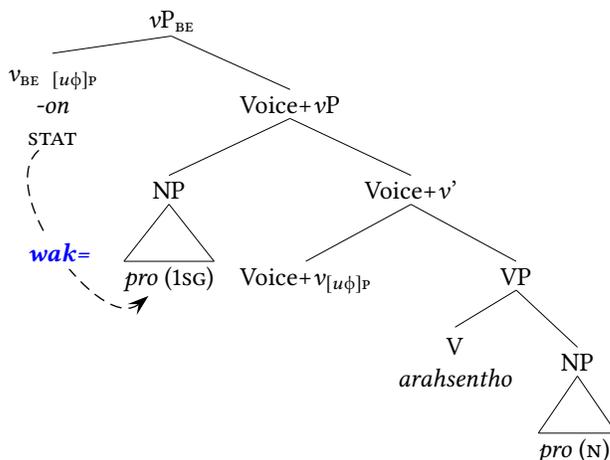
(i.) ‘I have kicked it(N)’ or

(ii.) ‘it(N/z) has kicked me’

(Martin 2023a; McDonald 2023)

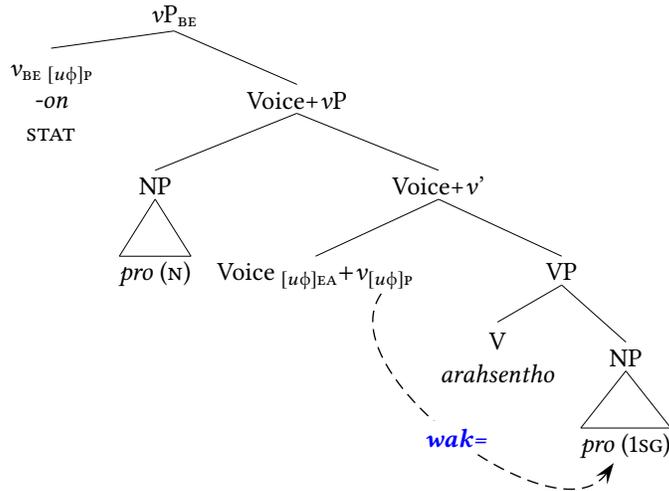
The derivations for readings (i.) and (ii.) are shown in (47) and (48), respectively. In (47), the internal argument is inanimate; as in the derivation in (22) above, this means that the $[u\phi]_P$ -probe on Voice^0+v^0 finds no goal, and as a result, Voice^0+v^0 has no $[u\phi]_{EA}$ -probe. Crucially, in the stative, rather than being selected by the A-prefix-generating Infl^0 head, the Voice+vP is selected by stative v_{BE}^0 , which bears a $[u\phi]_P$ -probe. The animate agent is still active, resulting in the agreement shown in (47).

(47) Stative ANIM > INAN \rightarrow P-prefix (= (46), i.)



For the second reading in (46), the internal argument is animate. Here the derivations proceeds as in (21) above: the $[u\phi]_P$ -probe on $\text{Voice}^0 + v^0$ enters into Agree with the animate internal argument. The $[u\phi]_{EA}$ -probe finds no features on the inanimate external argument, resulting in the P-prefix. The stative head merges, just as in (47), but finds no goal: the external argument has no ϕ -features, and the internal argument has already been cliticized.

(48) *Stative INAN > ANIM* → *P-prefix* (= (46), ii.)



The ambiguity in (46) then falls out naturally from the ingredients above. Transitives with animate patients and inanimate agents are generally expected to expone features of the patient using the P-prefix due to Agree with the $[u\phi]_P$ -probe on $\text{Voice}^0 + v^0$. However, transitive forms in the stative aspect always have two $[u\phi]_P$ -probes: one on the lower $\text{Voice}^0 + v^0$, and one on the stative head itself. The derivation in which only the *agent* is animate is correctly predicted to show a patient prefix because (i) the lower argument is inanimate, meaning the the $[u\phi]_P$ -probe and $[u\phi]_{EA}$ -probe on Voice are absent, and (ii) the Infl^0 head normally responsible for the A-prefix is not merged in a stative. The result is then that the higher $[u\phi]_P$ -probe generates a P-prefix based on Agree with the agent.¹⁸

This proposal correctly derives the fact that it is only the *agent* prefixes that must shift in the stative aspect. These are the prefixes generated by the Infl^0 head—which I take to be responsible for the perfective~imperfective contrast available for eventive verbs—and this head is irrelevant in the stative, since the $[u\phi]_P$ -probe on the lower stative head will be the one to agree first. Verbs with two animate arguments maintain transitive prefixes across all three aspects, as in (38) above. This fact is again predicted by the proposal here: all of the probes needed to create the transitive portmanteaux prefixes are within $\text{Voice} + vP$ and the full $\text{Voice} + vP$ is projected in a transitive stative. The derivation thus proceeds as in (24) above up through $\text{Voice} + vP$. The stative head selects the $\text{Voice} + vP$, but its probe finds no goals since both animate arguments have already been agreed with.

That the shift to P-prefixes in the stative for *transitive verbs* is specific to transitives with inanimate objects can be seen by contrasting the pair in (37) above (with neuter objects, repeated in (49)) with the forms in (50) (with feminine/zoic singular objects).

¹⁸For completeness, note that an intransitive verb lexically specified for a patient prefix will *also* result in a derivation with two $[u\phi]_P$ -probes in the stative aspect. Here the lower $[u\phi]_P$ -probe on v^0 will agree with the single argument; the probe on the stative head will not find a goal due to the fact that the single argument has already cliticized.

- | | | | | |
|------|--|------|---|----------------|
| (49) | a. <i>karahsénthos</i>
k -arahsenthos-s
1SGA-kick-HAB
‘I kick it(N)’
b. <i>wakarahsénthon</i>
wak -arahsenthos-on
1SGP-kick-STAT
(i.) ‘I have kicked it(N)’ | (50) | a. <i>karahsénthos</i>
k -arahsenthos-s
1SG>ZSG-kick-HAB
‘I kick it(z)’
b. <i>karahsénthon</i>
k -arahsenthos-on
1SG>ZSG-kick-STAT
‘I have kicked it(z)’ | (Martin 2023a) |
|------|--|------|---|----------------|

Recall that neuter and feminine/zoic singular arguments show syncretism across most of the pronominal prefix paradigm (see appendix A). The imperfective forms in (49a) and (50a) both show the prefix *k*-, which is syncretic between the 1st person singular agent prefix (1SGA) and the transitive prefix for 1st person singular acting on feminine/zoic singular (1SG>ZSG). But stative shift patterns provide evidence that this is indeed *syncretism*: the A-prefix in (49a) must shift to the P-prefix in the stative aspect, as in (49b); this behaviour is shared between intransitive A-prefix verbs and transitive verbs with neuter objects. But *transitive* prefixes do not shift, as shown by the fact that the same form is maintained in (50b).

In other words, the claim is that the φ -features of the feminine/zoic object in (50) have been registered by the $[u\varphi]_P$ -probe; this successful agreement in turn triggers the $[u\varphi]_{EA}$ -probe to copy back features from the agent, as in the derivation in (24) above. These two agreement relations result in a *transitive* pronominal prefix—in this case, one which happens to be identical to the 1st person singular A-prefix. In (49a), however, the inanimate internal argument is not registered by the agreement system at all; this form is derived as in (22) above via agreement with the agent by the $[u\varphi]_A$ -probe. Though different in terms of how it is formalized, this characterization aligns with the analysis of Koenig and Michelson (2015), who consider forms with only a single animate argument to be fundamentally intransitive.

All of the pieces needed to capture the distribution of pronominal prefix realization across the three main aspects find precedent in other work. These are summarized in (51).

- (51) *Ingredients of the stative shift analysis*
- a. Inanimate nominals lack φ -features (Oxford 2019; Lochbihler et al. 2021);
 - b. Three distinct φ -probes result in the three sets of prefixes; these can be related to probes responsible for *nominative* or highest-argument agreement ($[u\varphi]_A$ -probe), *accusative* agreement ($[u\varphi]_P$ -probe), and *ergative* agreement ($[u\varphi]_{EA}$ -probe);
 - c. Nominals which have undergone cliticization are invisible to future Agree operations (Anagnostopoulou 2003; Béjar and Rezac 2003);
 - d. The stative aspect does not occupy Infl^0 , but is a stative light verb with its own lexically specified $[u\varphi]_P$ -probe (Ormston 1993; Baker and Travis 1998).

The proposal for stative shift further aligns with work on other aspectually-driven alignment splits in which a split in agreement marking is argued to be governed by the predicative nature of a stative or imperfective aspect marker (see e.g., Laka 2006 on Basque and Coon 2013 on the Mayan language Ch’ol).

Though complex, I argue that this pattern does not provide grounds for abandoning syntactic argument structure or local selection (contra Koenig and Michelson 2015); rather, the stative shift pattern provides further support for the invisibility of specifically *inanimate* nominals to the syntactic agreement system, which we can formalize through the absence of φ -features.

4 Animacy restrictions

The previous sections outlined a formal account of the distribution of three sets of pronominal prefixes in Kanien'kéha, drawing on the empirical facts discussed in Koenig and Michelson 2015 and elsewhere in the Northern Iroquoian literature. Importantly, the mechanisms above do not involve any machinery not already established in the cross-linguistic literature on agreement and cliticization, and draw from and adapt earlier proposals by Ormston (1993), Baker (1996), Baker and Travis (1998), and others. Though the conclusions I reach are different, the proposal that inanimate nominals lack ϕ -features altogether aligns with the spirit of Koenig and Michelson 2015, who demonstrate that inanimates are ignored by the morphology. Despite the intricacies of the Northern Iroquoian agreement system, I conclude that shifts in pronominal prefix selection do not present motivation for rejecting argument structure.

In this section, I turn to a second agreement puzzle which motivates the absence of ϕ -features on inanimates. I argue is not only *compatible* with argument structure and the probe-goal system laid out above, but in fact necessitates appeal to a hierarchical organization of arguments. Specifically, this section focuses on the fourth and final of the generalizations listed in Koenig and Michelson 2015, 13, given in (52).

- (52) K&M'S GENERALIZATION 4: "There are no basic or derived stems with three animate semantic arguments."

Like the stative pattern in the previous section, Koenig and Michelson (2015) propose that this pattern is *morphological* in nature, requiring no reference to syntactic structure. Their characterization of the restriction is as follows: Northern Iroquoian languages can index maximally two animate arguments on the verb, through the transitive series of pronominal prefixes. As we will see below, ditransitive verbs exist, but the third argument is restricted to being *inanimate*.¹⁹ They write that "it is as if inflectional morphology requires arguments to be marked, but is limited (only two arguments can be marked via pronominal prefixes), and, as a result, there are restrictions on the kind of stems (base or derived) that can 'surface' as verb forms" (Koenig and Michelson 2015, 11).

I begin in section 4.1 with a look at animacy restrictions in ditransitives, which provide suggestive evidence that it is specifically the *theme* (lower object) of a benefactive that must be inanimate. We turn in section 4.2 to benefactives of *intransitives*, which allow us to refine the generalization and connect it to the *structural* position of the arguments in question; these first two subsections draw on the empirical observations in Baker 1996, and relate them to the proposals about pronominal prefixes in the sections above. In section 4.3, I briefly situate the Northern Iroquoian pattern within the more general literature on person/animacy restrictions and discuss how the absence of ϕ -features on inanimates can capture the patterns.

4.1 Ditransitives

As discussed by Woodbury (1975, 26) for Onondaga, Baker (1996) for Kanien'kéha, and Koenig and Michelson (2015) for Oneida, ditransitives are restricted in Northern Iroquoian languages. Koenig and Michelson (2015, 9) note that this holds both of underived ditransitives such as the Oneida root *u* 'give', and also holds systematically of all derived triadic stems. They illustrate with the Oneida forms in (53)–(54). In both Oneida and Kanien'kéha, animate themes may not incorporate into eventive verbs (with a few apparent exceptions, discussed below). The contrast between the stems in (53) illustrates that *ahseht* 'find' requires incorporation of the root *yaʔt* 'body' whenever the theme is animate. In (54a), the same root

¹⁹Mithun (2017, 763) invokes this discussion, writing: "Because there are positions in the verb template for only two core arguments, there are no ditransitive constructions." Based on examples she provides, it appears that she is using the term "ditransitive" specifically to mean verbs with three animate/morphologically referenced arguments.

appears with a benefactive applicative suffix, which introduces an affectee argument. However, this derived stem now cannot appear with an animate theme, as illustrated by the impossibility of (54b) with incorporated *yaʔt*.

- | | |
|---|---|
| (53) <i>Oneida transitives</i> | (54) <i>Oneida ditransitives</i> |
| a. -ahseht'-
-hide-
'hide something' | a. -ahseht- Λ (ni)-
-hide-BEN-
'hide something from someone' |
| b. -yaʔt-ahseht-
-body-hide-
'hide someone' | b. *-yaʔt-ahseht- Λ (ni)-
-body-hide-BEN-
int.: 'hide someone from someone' |

Baker (1996) describes a similar restriction in Kanien'kéha. In (55a), the cognate ditransitive *on* 'give' is necessarily understood as having an inanimate internal argument. The verb appears with a transitive pronominal prefix indexing the agent and recipient arguments. As noted by Mithun (2017) and section 2.3.2 above, this makes Kanien'kéha a *secundative* or *primary object* language in the sense of Dryer 1986: in terms of the agreement system, the applied object of a ditransitive (here the masculine singular recipient) is treated on par with the single object of a monotransitive. In (55b), the only possible interpretation of the stem is one in which the theme is inanimate and the dog is not understood as a verbal argument.

- (55) a. *wahí:ion'*
wa-rii-on-'
FACT-1SG>MSG-give-PUNC
'I gave it to him'
- b. *#è:rhar enkón:nonte'*
erhar en-kon-nont-e'
dog FUT-1SG>2SG-feed-PUNC
intended: 'I will feed you to the dog'
possible as: 'dog, I will feed you something' (Baker 1996, 193)

In addition to the verbs 'give' and 'feed' in (55), Kanien'kéha ditransitives may also be derived through the addition of a benefactive suffix (Mithun 2006b; Martin 2023b), often realized as *-hs* or *-s*, as shown by the pair in (56). The benefactive adds an *affectee*—benefactive or malefactive—to the event (Mithun 2006b; Martin 2023b), which is then treated as the primary object: the transitive pronominal prefix *kon-* in (56b), for example, indicates a 1st person agent and 2nd person affectee.

- (56) a. *wa'kenóhare'*
wa'-ke-nohare-'
FACT-1SGA-wash-PUNC
'I washed it.'
- b. *wa'konnóhare'se'*
wa'-kon-nohare-'s-e'
FACT-1SG>2SG-wash-BEN-PUNC
'I washed it for you.' (Martin 2023b, 193)

As in Oneida, the restriction against animate themes holds of derived ditransitives in Kanien'kéha as well, discussed in detail in Baker 1996. A minimal pair illustrating is shown in (57). Here, the monotransitive stem 'find' appear with the benefactive suffix *-s*. As above, the pronominal prefix indexes the

agent and recipient. The theme is not morphologically referenced on the verb, and is restricted to being inanimate.

- (57) { *Kà:sere'* / **káskare'* } *enhítshénria'se'*.
 { *Kasere'* / **kaskare'* } *en-ri-tshenri-a-'s-e'*
 car friend FUT-1SG>MSG-find-JR-BEN-PUNC
 I will find him { a car/*a girlfriend }.' (Baker 1996, 194)

Koenig and Michelson (2015, 10) note that some apparent exceptions to the animacy restriction are found in Oneida texts, but all involve nouns which they argue have “low animacy” or have a meaning suggestive of “depersonalification of their referents”. These are nouns which pattern unlike typical animates in other ways, for example, in their ability to undergo incorporation. The Oneida equivalent of *káskare'* in (57) is one such noun (depersonalifiable into ‘mate’, in Oneida), and indeed, Kanien’kéha speakers consulted did not find the example in (57) outright ungrammatical. However, proper names and unambiguously animate nouns were deemed ungrammatical in ditransitive theme position, as shown in (58). Note that the presence of the incorporated *ia't* ‘body’ is indicative of an animate theme.

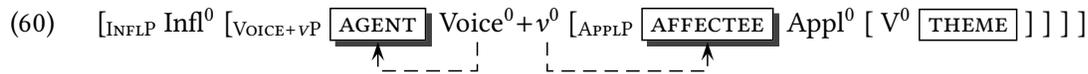
- (58) a. **Wá:ri enhiia'tatshénria'se'*.
 Wari *en-ri-ia't-a-tshenri-a-'s-e'*
 Mary FUT-1SG>MSG-body-JR-find-JR-BEN-PUNC
 intended: ‘I will find Mary for him.’
 b. **Enkheia'tatshénria'se'* *ne raksà:'a.*
 En-*khe-ia't-a-tshenri-a-'s-e'* *ne raksà'a*
 FUT-1SG>F-body-JR-find-JR-BEN-PUNC NE boy
 intended: ‘I will find the boy for her.’ (Martin 2023a; McDonald 2023)

In a similar vein, the example in (59a) shows that the verb *atenhninon* ‘sell’ can combine with a 2nd person theme. In (59b) we see that the benefactive applicative can be added to a stem with an inanimate theme; as expected, the transitive prefix here indexes the agent and recipient arguments. However, combining features of (59a) and (59b)—i.e., a 2nd person theme with a benefactee—is ungrammatical. The ungrammatical form in (59c) shows that such a form is impossible using the pronominal prefix to index features of the agent and recipient and expressing the theme as a free-standing pronoun; other monoclausal attempts at expressing this meaning were deemed equally bad.

- (59) a. *Wa'koniatenhní:non'*.
 Wa'-*koni-aten-hninon-*'
 FACT-1SG>2SG-SRFL-buy-PUNC
 ‘I sold you out.’
 b. *Wa'koniatenhní:non'se'*.
 Wa'-*koni-aten-hninon-'s-e'*
 FACT-1SG>2SG-SRFL-buy-BEN-PUNC
 ‘I sold it to you.’
 c. **I:se'* *wahiiatenhní:non'se'*.
 Ise' *wa-rii-aten-hninon-'s-e'*
 PRON2SG FACT-1SG>MSG-SRFL-buy-BEN-PUNC
 intended: ‘I sold you (out) to him.’ (Martin 2023a; McDonald 2023)

I propose the structure in (60) for derived ditransitives like those in (59b): the applied object (i.e., benefactee or malefactee) is introduced in the specifier of an applicative head (Appl⁰), above the theme

and below the agent; the head is realized by the benefactive suffix, and its position between the stem and the aspect suffix thus aligns with the Mirror Principle. In the typology of [Pylkkänen \(2002, 2008\)](#), these are *high applicatives*, which relate an argument to an eventuality (here VP). The agent and affectee (in shaded boxes) may be animate and are referenced by the transitive pronominal prefix created by the probes on $\text{Voice}^0 + v^0$; the lower THEME (in a plain box) must be inanimate.



The basic structure in (60) aligns with proposals for ditransitives cross-linguistically in which (i) the head responsible for object agreement, v^0 , c-commands both the recipient (i.e., affectee or applied object) and the theme in a ditransitive, and (ii) that the recipient c-commands the theme ([Harley 2002](#); [Anagnostopoulou 2003](#); [Pylkkänen 2008](#); [Bruening 2010](#); see discussion in [Bárány 2024](#)). One piece of Kanien'kéha-internal evidence for this configuration comes from the secundative nature of the prefix system: as we have already seen (e.g., the pair in (23) above), monotransitive themes are treated on par with ditransitive affectees by the pronominal prefix system. This pattern receives a natural explanation in a structure in which the $[\text{u}\phi]$ P-probe is consistently present on v^0 and enters into Agree with the closest feature-bearing element it encounters: a ditransitive affectee or a monotransitive theme.

Additional evidence that the affectee is the more structurally prominent internal argument comes from reflexives, discussed in [Baker 1996](#). The reflexive prefix *atat-* may appear with both mono- and ditransitives, and establishes coreference between the external argument and the *primary object*, as shown by the reflexives of mono- and ditransitives in (61a) and (61b), respectively ([Baker 1996](#); [Mithun 2006b](#)). See also [Michelson 2023a](#) for similar facts in Oneida.

- (61) a. *katatarahsénthos*
k-atat-arahsenthos-s
 1SGA-REFL-kick-HAB
 'I kick myself.' ([Martin 2023b](#))
- b. *enkatatahió:hare'se'*
 en-**k-atat**-ahi-ohare-'s-e'
 FUT-1SGA-REFL-fruit-wash-BEN-PUNC
 'I will wash the fruit for myself.' ([Baker 1996, 202](#))

While I do not offer an account of reflexives here (see discussion in [Baker 1996](#), ch. 5), the fact that reflexivization targets the affectee in a ditransitive aligns with the proposal that the affectee is more structurally prominent than the theme.

While the ditransitive examples examined so far are all in line with [Koenig and Michelson's](#) generalization in (52) that verbs appear with a maximum of two animate arguments, as [Baker \(1996\)](#) discusses, the restriction on animate arguments is not simply about the *number* of animate arguments, but rather about the *syntactic configuration* in (60): themes cannot be animate in the presence of a recipient or applied object. If the problem were simply about the total number of arguments, we might expect ditransitives with animate themes to be possible if the agent or recipient were inanimate. As shown in (62a) and (62b), respectively, this is incorrect.

- (62) a. **Tsi iokennó:ron wa'onkia'tóhare'se'* *ne kheìen:'a.*
 Tsi iokennoron wa'-**onk**-ia't-ohare-'s-e' ne kheien'a
 that rain FACT-F>1SG-body-wash-BEN-PUNC NE my.daughter
 intended: 'The rain washed my daughter for me.'

- b. **Wahiia'tohare'se'*
 Wa-ri-ia't-ohare-'s-e'
 FACT-1SG>MSG-body-wash-BEN-PUNC
 intended: 'I washed him for it (e.g., a special school event).' (Baker 1996, 194)

As K. Michelson (personal communication) suggests, it is possible that (62a) is judged as degraded due to a dispreference for inanimate causers, or the pragmatic oddity of the event described, rather than a structural restriction against animate themes in ditransitives.²⁰ Similarly, Baker (1996, 238) notes that (62b) is likely bad for an independent reason: applied objects in these constructions must be animate *affectees*, a fact which we might attribute to the nature of the benefactive applicative head which introduces the applied argument.

Reflexives of benefactives, Baker (1996) argues, provide stronger evidence that the restriction against animate themes in ditransitives is not about the number of agreement slots, but about the syntactic configuration. Reflexives, like those in (61) above, consistently show A-prefixes reflecting the features of the external argument and the co-indexed primary object.²¹ In principle, then, we might expect the freed-up agreement slot (i.e., the second set of features contributing to a transitive prefix) to be able to index features of an animate theme. As the ungrammatical example in (63) shows, this form is impossible both with an animate feminine theme, as well as with a reflexive theme (since the reflexivization must target the primary object, as in (61)).

- (63) **wa'kheiatatia'tohare'se'*
 wa'-khei-atat-ia't-ohare-'s-e'
 FACT-1SG>FI-REFL-body-wash-BEN-PUNC
 intended: 'I washed her for myself'
 also bad as: 'I washed myself for her.' (Baker 1996, 202)

In this section we have seen that both lexical and derived ditransitive themes are restricted from being animate in Kanien'kéha. I will propose below that it is precisely because inanimates lack ϕ -features altogether that they are able to appear in this position. First, we turn to differences between benefactives of *intransitives*. The same benefactive suffixes which appear on transitives to derive ditransitives may also appear on intransitives, where they also introduce an affectee argument (Martin 2023b). Differences in behaviour between two classes of intransitives will allow us to further pin the animacy restriction to the syntactic structure.

²⁰Note however that inanimate causers are deemed grammatical in monotransitives, as in (13b) above or (80) below. Indeed, *ohare* 'wash' was judged grammatical with an inanimate subject in the absence of a benefactive, shown in (i). Thanks to a reviewer for suggesting this.

- (i) **Context:** my daughter was outside in the rain and comes in soaking wet...
Wa'akonontshistohare'
 wa'-ako-nontshist-ohare-'
 FACT-FP-hair-wash-PUNC
 'It washed her hair.' (McDonald 2025)

For the speaker consulted, the verb *ohare* used in Baker's example was preferred for washing body parts, and a different verb was used for bathing generally (*atawen*). The form in (i) thus involves external possession with the feminine possessor of the incorporated body-part nominal; see Baker 1996; Boles 2024 for discussion.

²¹As noted in fn. 11 above, this can be captured under the probe system above under the assumption that the reflexive head indicates a special Voice⁰+v⁰ which never hosts a [u ϕ]P-probe.

4.2 Benefactives of intransitives

Examples of benefactives of intransitives from [Martin 2023b](#) are shown in (64). While benefactives use a consistent set of allomorphs—here the *-hse* form seen above, as well as an allomorph *-ni*—they can be distinguished by patterns in pronominal prefix choice.

(64) <i>Benefactives of intransitives from Martin 2023b</i>				
a.	<i>ioiánere'</i>	'it is good'	<i>watianeráhse'</i>	'it is good for me'; 'I find it good'
b.	<i>iohní:ron</i>	'it is hard'	<i>wakhniròn:se'</i>	'it is hard for me'; 'I find it hard'
c.	<i>iókste'</i>	'it is heavy'	<i>wakekstè:se'</i>	'it is heavy for me'; 'I find it heavy'
d.	<i>wáhtons</i>	'it disappears'	<i>wakahtón:ni</i>	'it has disappeared on me'
e.	<i>tewátia'ks</i>	'it breaks'	<i>tewakatià:ni</i>	'it has broken on me'
<hr/>				
f.	<i>tkanónhtons</i>	'I am in control'	<i>tkonianonhtón:se'</i>	'I am controlling you'
g.	<i>watió'tens</i>	'I work'	<i>konio'ténhse'</i>	'I work for you'
h.	<i>katá:tis</i>	'I speak'	<i>koniatatià:se'</i>	'I speak for you'
i.	<i>ktháhrha'</i>	'I talk'	<i>konhthará:ni</i>	'I am talking to you'
j.	<i>kká:ratons</i>	'I tell a story'	<i>konkaratón:ni</i>	'I tell you a story'

The first five forms in (64) appear with inanimate subjects in their underived forms in [Martin 2023b](#), and in their benefactive form, we find the 1st person singular patient prefix *wak(e)-*, indexing the affectee (translated colloquially into English as 'for me', 'on me', or 'I find it...'). The second group of forms, on the other hand, appear in their intransitive forms with 1st person singular agents; in the benefactive forms we now find the *transitive* prefix *kon(i)-*, indexing the 1st person agent and an added 2nd person affectee. The choice of allomorph is independent of this pattern.

I propose that the difference between benefactive forms which use P-prefixes and those which use transitive prefixes is not accidental, but relates to a difference in argument structure: the forms in (a.–e.) of (64) are unaccusatives, while those in (f.–j.) are unergatives. [Martin's](#) representation of the first forms with P-prefixes reflects the fact that we find a similar animacy restriction to that seen above for applicatives of *unaccusatives*, which restrict the theme argument to being inanimate. No such animacy restriction is present for applicatives of unergatives, like those in the bottom half of (64). An updated generalization—which unifies the restriction on ditransitive and applicative-of-unaccusative themes—is given in (65).

(65) *Revised animacy restriction*: If there are two internal arguments, the lower of the two (i.e., the theme) must be inanimate.

One diagnostic which distinguishes unergatives from unaccusatives is the ability of unaccusative predicates to incorporate their single argument ([Baker 1996](#), 5.4). The examples in (66) show that the unaccusative predicate *kste* 'be heavy' from row c. in (64) can incorporate an inanimate subject. As noted above, animate themes like those in (67) may not incorporate, but here trigger the presence of the incorporated nominal *ia't* 'body'.

(66)	a.	<i>Iókste'</i>	<i>ne o'neróhkwa'</i>	(67)	a.	<i>Roia'tákste'</i>	<i>ne raksà:'a</i>
		<i>io-kste'</i>	<i>ne o'nerohkwa'</i>			<i>ro-ia't-a-kste'</i>	<i>ne raksa'a</i>
		NP-heavy.STAT	NE box			MSGP-body-JR-heavy.STAT	NE boy
		'The box is heavy.'				'The boy is heavy.'	
	b.	<i>Io'nerohkwákste'</i>			b.	<i>Saia'tákste'</i>	
		<i>io-'nerohkw-a-kste'</i>				<i>sa-ia't-a-kste'</i>	
		NP-box-JR-heavy.STAT				2SGP-body-JR-heavy.STAT	
		'The box is heavy.'				'You are heavy.'	

([Martin 2023a](#); [McDonald 2023](#))

The benefactive applicative suffix can be added to unaccusative stems to introduce an affectee argument. While simple unaccusatives may appear with A- or P-prefixes (§2.2), benefactives of unaccusatives *always* appear with P-prefixes (discussed in Baker 1996, 5.3). The simple unaccusative in (68a) with an incorporated theme appears with an expletive A-prefix; the same verb with a benefactive applicative appears with a P-prefix indexing the applied affectee in (68b).²²

- (68) a. *Takawí:sen'ne'*
 ta-**ka**-wis-en'-ne'
 CIS.FACT-NA-glass-fall-PUNC
 'The glass fell.' (Baker 1996, 213)
- b. *Sak wahowí:sen'se'*
 Sak wa'-**ro**-wis-en'-s-e'
 Jim FACT-MSGP-glass-fall-BEN-PUNC
 'The glass fell on (i.e., to the detriment of) Jim.'; 'Jim dropped the glass.' (Martin 2023a)

The inanimate theme in a benefactive-of-unaccusative can appear incorporated or not, as seen in the pair in (69a)–(69b). The patient prefix consistently indexes the affectee.

- (69) a. *Onkékste'se' ne o'neróhkwa'*
 wa'-**wak**-kste-'s-e' ne o'nerohkwa'
 FACT-1SGP-heavy-BEN-PUNC NE box
 'The box was heavy to me.' (i.e., 'I found the box heavy')
- b. *Onke'nerohkwákste'se'*
 wa'-**wak**-'nerohkw-a-kste-'s-e'
 FACT-1SGP-box-JR-heavy-BEN-PUNC
 'The box was heavy to me.' (Martin 2023a; McDonald 2023)

However, the theme of these benefactives may not be animate, as shown by the ungrammatical forms in (70). As with the ditransitives above, these forms are bad on the intended meaning regardless of the choice of pronominal prefix; the intended meaning must simply be expressed in a different way. Comparison with the forms in (67) above shows that there is no problem with this predicate combining with an animate theme – ungrammaticality arises only with an animate theme in the presence of a benefactive.

²²A reviewer raises the concern that the colloquial translation 'Jim dropped the glass' in (68b) is suggestive of an alternate argument structure in which Jim is the agent, noting that it is cross-linguistically common for applicatives to also have a causative function (e.g., Shibatani and Pardeshi 2002). In Kanien'kéha, however, the same verb can also appear with the causative suffix, *-ht*, as shown in (ia). The causative form is good, for example, in a context in which Jim purposefully shakes the table, causing the glass to fall over; the form in (68b), on the other hand, is appropriate in a context in which Jim is clumsy and a glass drops from his hand. In (ia), the causative appears with the A-prefix expected of a transitive form with an animate agent and inanimate theme. Furthermore, while the theme of the benefactive in (68b) is restricted from being inanimate (see Baker 1996, 197), this is not the case for the causative form, as shown in (ib).

- (i) a. *Sak tahawí:senhte'*
 Sak ta-**ra**-wis-en-ht-e'
 Jim DUP.FACT-MSGA-glass-fall-CAUS-PUNC
 'Jim made the glass fall.'
- b. *Takonià:tenhte'*
 ta-**kon**-ia't-en-ht-e'
 DUP.FACT-1SG>2SG-body-fall-CAUS-PUNC
 'I made you fall.' (McDonald 2025)

- (70) a. **Wahakia'tákste'se'* *ne raksà:'a.*
 wa'-**rak**-ia't-a-kste-'s-e ne raksa'a
 FACT-MSG>1SG-body-JR-heavy-BEN-PUNC NE boy
 intended: 'The boy was heavy to me.'
- b. **Wahstia'tákste'se'*.
 wa'-**hst**-ia't-a-kste-'s-e'
 FACT-2SG>1SG-body-JR-heavy-BEN-PUNC
 intended: 'You were heavy to me.' (Martin 2023a; McDonald 2023)

This pattern appears to be consistent across a number of benefactives of unaccusatives. The form in (71a) shows that *ahton* 'disappear' can be predicated of a human. A benefactive form is possible with an inanimate theme, as in (71b); as expected, a P-prefix indexes the affectee. The transitive prefix indexing two animate entities with the benefactive in (71c), however, is impossible (regardless of the choice of transitive prefix).

- (71) a. *Wa'káhton'*.
 wa'-**k**-ahton-'
 FACT-1SGA-disappear-PUNC
 'I disappeared.'
- b. *Wakahtón:ni.*
wak-ahton-ni
 1SGP-disappear-BEN.STAT
 'It has disappeared on me.' (Martin 2023b)
- c. **Koniahtón:ni.*
koni-ahton-ni
 1SG>2SG-disappear-BEN.STAT
 intended: 'You disappeared on me.' / 'I disappeared on you.' (Martin 2023a; McDonald 2023)

A similar trio with another predicate is illustrated in (72). See Baker 1996, 197 for additional examples illustrating this restriction.²³

- (72) a. *Kentó:re.*
k-entore
 1SGA-difficult.STAT
 'I am difficult.' (i.e., I'm a difficult person)
- b. *Wakentorà:se'*.
wak-entor-a-'s-e'
 1SGP-difficult-JR-BEN.STAT

²³While the speakers cited found the example in (72c) ungrammatical, two speakers found a transitive-benefactive with *entor* possible, but with an interpretation in which someone is causing something to be difficult. For example, (i) was deemed possible in discussing a colleague whose behaviour is making it difficult for me to get my work done.

- (i) *Rakwentorà:se'*.
 rakw-entor-a-'s-e'
 MSG>1SG-difficult-JR-BEN-PUNC
 'He's making it difficult for me.'

These same speakers found other forms above—e.g., (58), (70), (71c)—to be strictly ungrammatical. While further work is needed to understand (i), I suggest that the context offered may be indicative of an interpretation in which the masculine singular participant is no longer interpreted as a theme, but as an external causer, which fits with the larger generalization here.

- ‘I find it difficult.’ (Martin 2023b, 9)
- c. **Konientorà:se*.
koni-entor-a-’se’
 1SG>2SG-difficult-JR-BEN.STAT
 intended: ‘I find you difficult.’ / ‘You find me difficult.’ (Martin 2023a; McDonald 2023)

I propose that benefactives of unaccusatives have a structure like the one in (73). The relative position of the arguments is identical to the ditransitive in (60) above, but without the Voice⁰ head and the external argument it introduces. The v^0 head that merges with ApplP always bears a [u ϕ]P-probe (as with the v^0 in regular monotransitives), ensuring that these forms will always take a P-prefix; I take this to be a selectional fact, which one could imagine is functionally motivated by the fact that Appl⁰ always introduces an animate affectee in its specifier. The theme must be inanimate, consistent with the revised structure-based generalization in (65). We turn to an account of this restriction in the next section.

$$(73) \quad [_{\text{INFLP}} \text{Infl}^0 [_{\text{VP}} v^0 [_{\text{APPLP}} \boxed{\text{AFFECTEE}} \text{Appl}^0 [V^0 \boxed{\text{THEME}}]]]]]$$

Benefactives of unergatives, in contrast, permit two animate arguments. This is shown by the forms in the second half of the table in (64), as well as the pairs in (74b) and (75b). The verb stems *aterennot* ‘sing’ and *io’ten* ‘work’ may not incorporate their subjects, consistent with being unergatives. When they appear with a benefactive suffix, they take a transitive prefix indexing the agent and the affectee.

- | | |
|--|--|
| <p>(74) a. <i>Katerennótha</i>.
 k-aterennot-ha’
 1SGA-sing-HAB
 ‘I sing.’</p> <p>b. <i>Koniaterennotá:nis</i>.
 koni-aterennot-ani-s
 1SG>2SG-sing-BEN-HAB
 ‘I sing to you.’ (DeCaire 2023, 207)</p> | <p>(75) a. <i>Enwatió’ten</i>.
 en-wak-io’ten-’
 FUT-1SGP-work-PUNC
 ‘I will work.’ (DeCaire 2016)</p> <p>b. <i>Enhiió’tenhse</i>.
 en-ri-io’ten-hs-e’
 FUT-1SG>MSG-work-BEN-PUNC
 ‘I will work for him.’</p> |
|--|--|

The structure here mirrors that for the ditransitive in (60), but now without the theme argument. This structure, together with the proposal about the probes generating pronominal prefixes from section 2.3 above, correctly predict that transitive prefixes will be available to index the agent and the applied object.

$$(76) \quad [_{\text{INFLP}} \text{Infl}^0 [_{\text{VOICE+VP}} \boxed{\text{AGENT}} \text{Voice}^0 + v^0 [_{\text{APPLP}} \boxed{\text{AFFECTEE}} \text{Appl}^0 [V^0]]]]]$$

The revised animacy restriction in (65) above then correctly captures the full range of empirical patterns, seen in (60), (73), and (76): when two internal arguments are present, only the highest may be animate. Put differently, themes may not be animate in the presence of a higher applied object, which generalizes across the ditransitive and benefactive-of-unaccusative structures in (60) and (73), respectively.

4.3 Situating and accounting for the restriction

As already pointed out by Baker (1996), an account which derives the ungrammaticality of animate themes in ditransitive constructions from an insufficient number of agreement “slots” on the verb, without appeal to argument structure, fails to capture the contrast between applicatives of unaccusatives and applicatives of unergatives. The probe-goal system laid out in section 2 provides a natural account of the facts: transitive prefixes index only the external argument and the highest internal argument; patient-prefixes are

consistently found with benefactives of unaccusatives, consistent with the proposal that P-prefixes are the result of a probe on specific flavours of v^0 (in this case, v^0 that selects ApplP).

Animacy and person restrictions like those seen in Kanien’kéha benefactives are familiar from literature on the Person Case Constraint (PCC). While ditransitives are a common domain in which PCC effects are found, a range of work on person restrictions like these has identified the environments in which these effects occur as environments in which *two accessible nominals are found in the same domain as a single agreeing probe* (e.g., Anagnostopoulou 2003; Béjar and Rizac 2003; Nevins 2007; Preminger 2014, 2019; Oxford 2019; Coon and Keine 2021, among others). This includes not only ditransitives (with a low probe on, say, v^0), but also dative-subject configurations in Icelandic (Sigurðsson 1996) and Basque (Arregi and Nevins 2012); binomial copular clauses in German (Keine et al. 2019) and Hindi-Urdu (Bhatia and Bhatt 2023); and certain transitives in Algonquian (Keine et al. 2022) and Zapotec (Foley and Toosarvandani 2022), among others. This relates directly to the fact that Kanien’kéha effects are found not just in ditransitives, but also in applicatives of unaccusatives (and crucially *not* with benefactives of unergatives). The PCC effect in Basque, for example, rules out not only 1st and 2nd person themes of ditransitives, as shown by the pair in (77), but also 1st and 2nd person themes in dative-subject psych verb constructions like (78) (Albizu 1997; Rizac 2008; Keine and Mendia 2022).

- (77) a. Zu-k harakina-ri **liburu-a** saldu d-i-o-zu.
you-ERG butcher-DAT book-ABS sold 3ABS-AUX-3DAT-2ERG
‘You have sold the book to the butcher.’
b. *Zu-k harakina-ri **ni** saldu n-ai-o-zu.
you-ERG butcher-DAT I.ABS sold 1ABS-AUX-3DAT-2ERG
intended: ‘You have sold me to the butcher.’ (Basque; Keine and Mendia 2022, 1)
- (78) a. Ni-ri **Mikel** gusta-tzen z-ai-t.
I-DAT Mikel.ABS like-IPFV 3ABS-AUX-1DAT
‘I like Mikel,’
b. *Ni-ri **zu** gusta-tzen z-atzaizki-t.
I-DAT you.ABS like-IPFV 2ABS-AUX-1DAT
intended: ‘I like you’ (Basque; Keine and Mendia 2022, 4)

While restrictions often involve 1st and 2nd person speech act participants, restrictions related to *animacy*—like the one found in Kanien’kéha—are also reported for other unrelated languages. Zapotec languages, for example, exhibit complex animacy hierarchies, distinguishing animates, from animals, from humans (similar to what was described for Kanien’kéha in §2.2). Within the category of human, further distinctions can be made, depending on the variety, for example separating out a special category of elders (see e.g., Foley and Toosarvandani 2022 and references there).²⁴ Similarly, Hualde (1989) describes a restriction against *definite animate* themes of ditransitives in the Bantu language Nyaturu (aka Rimi, discussed in Ormazabal and Romero 2007; Riedel 2009). Situated against this backdrop, there is nothing surprising about the nature of the animacy restriction in Kanien’kéha.

Within a probe-goal model, there are two families of accounts which have been used to capture PCC and related effects. Both, I propose, can be extended to Kanien’kéha under the proposal that inanimates lack ϕ -features. Under a *feature-gluttony* approach to PCC effects proposed in Coon and Keine 2021 (see also Keine and Mendia 2022; Keine et al. 2022; Bhatia and Bhatt 2023; Keine 2023), person restrictions are

²⁴While Foley and Toosarvandani (2022) describe this as a “gender case constraint”, they note that the contrast is in fact one of animacy, which can be integrated into the larger person/animacy hierarchy; see also Toosarvandani 2023 for an analysis of Zapotec animacy as distinctions in *person* features. As a reviewer points out, restrictions in animacy appear to be restricted to languages which morphologically distinguish animacy (at least within this relatively small sample), which may constrain the domain of variation.

the result of an *excess* of Agree. Specifically, a probe which has entered into Agree with more than one goal is said to be “gluttonous.” A gluttonous probe does not in and of itself give rise to ungrammaticality, but rather, can create irresolvable conflicts for the realization of agreement morphology, or, in the case at hand, for the movement operation involved in cliticization. Specifically, I assume that the $[u\varphi]_P$ -probe is a Multiple Agree probe, following Hiraiwa (2001, 2005) and Keine (2023): it must enter into Agree with every accessible (i.e., φ -feature-bearing) nominal in its search domain. The only known configurations in which a single probe will have access to multiple accessible goals (i.e., animate goals which have not already undergone cliticization) are those with two internal arguments. Given that the applied object is always required to be animate (because it must be capable of being *affected*), this means that gluttony—and therefore ungrammaticality—will arise exactly in configurations in which the lower of two objects is animate. Under the proposal that inanimates lack φ -features altogether, they will not create a gluttony problem for the $[u\varphi]_P$ -probe, and correctly expected to be the only possibility for the lower of two objects.

An alternative line of approach to PCC effects is a *licensing-based approach*, as in Anagnostopoulou 2003, 2005; Béjar and Rezac 2003; Nevins 2007, and others. Under licensing approaches, ungrammaticality is the result not of *too much* agreement, but rather, *too little* agreement: an intervening nominal blocks the required licensing relation with a lower nominal. In order to capture the Kanien’kéha pattern, one could modify the licensing condition to require that all *animate* arguments be licensed by Agree. Baker’s (1996) account of the animacy restrictions on Kanien’kéha themes is a specific version of a licensing account. Though I know of no Kanien’kéha-internal means to distinguish between a gluttony or licensing based approach to the animacy restriction, see Coon and Keine 2021 for empirical concerns with licensing approaches to hierarchy effects in other languages.²⁵ For our purposes here, the important take-away message is simply that a full characterization of the animacy restriction in sections 4.1–4.2 relies on a hierarchical representation of arguments, not simply the *number* of animate arguments. The restriction against inanimates in the lower theme position aligns with cross-linguistic patterns, and can be accounted for under the proposal that inanimates lack φ -features.

Under a licensing-based approach, a question arises about why the higher $[u\varphi]_A$ -probe on Infl^0 could not enter into Agree with—and thereby license—the lower theme in a structure like (73). While various stipulations could be introduced, a point in favour of the gluttony account is the fact that this issue does not arise. Gluttony will cause a problem immediately at the point the $[u\varphi]_P$ -probe triggers Agree; effects of higher probes will be irrelevant.

5 Conclusions and implications for polysynthesis

5.1 Summary

This paper examined the complex system of pronominal prefixes in Kanien’kéha. In section 2 I introduced the basic patterns and outlined a model which relies on three clitic-generating φ -probes: (i) a $[u\varphi]_A$ -probe located on the inflectional head, responsible for A-prefixes; (ii) a $[u\varphi]_P$ -probe located on v^0 , responsible for P-prefixes; and (iii) an $[u\varphi]_{EA}$ -probe on transitive Voice⁰, which enters into Agree with the external argument generated in its specifier. This $[u\varphi]_{EA}$ -probe is dependent on the presence of an animate internal argument and generates a clitic which is adjacent to the P-prefix and able to participate in local merger, resulting in the portmanteau transitive forms. These probes, coupled with the proposal that inanimate nominals lack person, number, and gender features, captured the basic patterns.

²⁵One important empirical domain for distinguishing these two approaches, discussed in Coon and Keine 2021, is non-finite clauses which lack agreement. Under a licensing approach, nominals in these clauses should (absent special stipulations) still require licensing and thus hierarchy effects are expected to remain. In a gluttony approach, on the other hand, restrictions are the result of an *excess* of Agree and non-agreeing clauses are then expected to not show hierarchy effects. In Kanien’kéha, however, all verb forms appear with pronominal prefixes, a point discussed in Baker 1996.

Sections 3 and 4 examined two core agreement puzzles identified in Koenig and Michelson 2015: the consistent absence of A-prefixes in the stative aspect, and the restriction against animate themes with certain benefactive applicatives. Both puzzles, I argued, then fall out from the proposal that inanimate arguments in Kanien'kéha lack φ -features and are thus ignored by the clitic-generating probe system. For the stative puzzle, I drew on previous work which posits that the stative aspect is fundamentally different from the perfective and imperfective aspects, involving a stative light verb endowed with its own $[\text{u}\varphi]\text{P}$ -probe and which selects for a small clause: νP or Voice+ νP . Following Koenig and Michelson 2015, I argued that the pattern of stative shift provided important evidence that inanimates do not agree with the verb at all. Specifically, while transitive verbs with inanimate and feminine/zoic themes are typically syncretic with one another, only those with inanimate themes undergo stative shift on par with intransitives.

The animacy restriction was shown to not be simply a surface morphological restriction on the number of animate arguments referenced on the verb, but rather requires appeal to syntactic argument structure: the contrast between benefactives of unaccusatives and benefactives of unergatives provided support for a generalization in which the *lower of two internal arguments*—i.e., themes in ditransitives and benefactives of unaccusatives—is restricted from being animate. These patterns bring the Kanien'kéha animacy restriction in line with animacy-related hierarchy effects cross-linguistically, which have been proposed to result precisely in environments in which a single φ -probe has access to multiple accessible goals. The absence of φ -features on inanimate nominals make them inaccessible to the probe, correctly accounting for their exemption from the restriction. As noted above, the proposal that inanimate nominals lack φ -features is not new, and has been independently proposed to account for the special behaviour of inanimate nominals in both Algonquian and Dene language families. However, when applied to Kanien'kéha, we arrive at important implications for the nature of *polysynthesis*.

5.2 Implications for polysynthesis

This work is set within a larger context, in which grammatical properties of Northern Iroquoian languages have been argued to require wide-reaching points of variation across the world's languages: an absence of a syntactic level of argument structure altogether (Koenig and Michelson 2015), and a macroparameter relating to the realization of nominal arguments and agreement (Baker 1996). The account above relied on reference to a hierarchical organization of arguments; hierarchical structure is necessary, for example, for capturing the differences between benefactives of unergatives and benefactives of unaccusatives, which falls out naturally under the probe-goal system proposed here. I argued further that the empirical generalizations laid out in Koenig and Michelson 2015 also require inanimate nominals to be completely ignored by the agreement system responsible for generating pronominal prefixes. Koenig and Michelson (2015) lay out a system in which inanimate nominals are *semantic* arguments, but not *grammatical* arguments. While I do not discuss the details of their account here, I suggest that the empirical observations motivating this claim can be handled by the proposal that inanimates simply lack the φ -features present on animates, and do not require any special claims about argument structure.

The absence of φ -features on inanimates is directly at odds with the Morphological Visibility Condition (MVC) in (79), the formal requirement underlying Baker's polysynthesis macroparameter.

(79) *Morphological Visibility Condition* (Baker 1996, 17)

A phrase X is visible for θ -role assignment from a head Y only if it is coindexed with a morpheme in the word containing Y via:

- a. an agreement relationship, or
- b. a movement relationship.

According to Baker, polysynthetic languages are languages which are subject to the MVC: all arguments

must either be agreed with by the verb (79a), or incorporate into the verb (79b). The agreement morphemes and incorporated nominals in the verbal head-marking system are then taken to absorb case features, and as a result, in order to avoid a Case Filter violation, all unincorporated nominals are necessarily high sentential adjuncts. As Baker notes, this claim draws on precedents such as Jelinek’s (1984) Pronominal Argument Hypothesis. For Jelinek, agreement morphemes *are* the arguments, forcing nominals to be adjoined; for Baker, agreement morphemes (i.e., the pronominal prefixes in Kanien’kéha) reference null pronouns in argument position. Under both approaches, we achieve a direct connection between core properties of polysynthetic and nonconfigurational languages: the languages are robustly head-marking (because the agreement markers either are the arguments, or obligatorily reference them), and freestanding nominals are optional and flexibly ordered (because they are optional adjuncts).

The status of inanimate nominals then poses a particular problem for the MVC. The empirical patterns above motivated the proposal that inanimates lack ϕ -features altogether. As detailed in section 3, it cannot be the case that inanimates simply enter into Agree but do not trigger overt morphology; as discussed in Koenig and Michelson 2015, if this were the case, there would be no way to account for the difference in behaviour between, for example, syntactically transitive verbs with *feminine/zoic* objects, and syntactically transitive verbs with *neuter* objects (compare (49) and (50) in §3.2 above).²⁶ This means that inanimates cannot satisfy the MVC by agreement, as in (79a).

For inanimate *internal* arguments, Baker (1996) has an alternative to positing a null neuter agreement morpheme: he argues that the internal argument position is occupied by a neuter nominal, typically null, which incorporates into the verb, thereby satisfying the MVC via (79b). For Baker, this captures the animacy restriction on themes in (65) above: all arguments must be licensed by either agreement or incorporation. When there is an insufficient number of agreement positions available, only inanimate themes may surface since only these arguments may be licensed by incorporation.

The possibility of incorporation does not exist, however, for inanimate arguments which are *not* in theme position, as in the examples in (80). Baker (1996) glosses the pronominal prefixes *iako-* and *ro-* as *transitive* prefix referencing a neuter subject with feminine and masculine objects, respectively. Recall from section 2.3, however, that prefixes found on transitive verbs with inanimate subjects and animate objects are identical to patient prefixes, which my glosses here reflect.

- (80) a. Ónhka iakoia’takéhnhas ne akaónha akonónhkwa’?
 onhka iako-ia’t-akehnha-s ne akaonha ako-nonhkwa’
 who FP-body-help-HAB NE her FsPOSS-medicine
 ‘Who does her medicine help?’ (Baker 1996, 79)
- b. Sak raonekó:ta’ wa’thoia’torá:rake’.
 Sak rao-nekota’ wa’-t-ro-ia’t-orarak-e’
 Sak MSGPOSS-ladder FACT-DUP-MSP-body-hit-PUNC
 ‘Sak’s ladder hit him.’ (Baker 1996, 111)

An important point made in Baker (1988, 1996) is that only *internal* arguments are able to incorporate. An inanimate transitive subject like the one in (80), then, cannot satisfy the MVC via incorporation. In order to maintain the MVC, then, neuter arguments *must* enter into Agree with functional heads, as in (79a)—a position which is incompatible with the analysis of the complex agreement patterns argued for above.²⁷

²⁶Koenig and Michelson (2015) propose a version of the MVC, which they note finds precedent in other literature on polysynthetic and non-configurational languages (Jelinek 1984; Van Valin 1985; Mithun 1986; Nichols 1986), which they label the Strong Morphological Referencing Hypothesis (SMRH). The SMRH states that all grammatical arguments must be referenced morphologically. They propose further that neuter arguments *are not* grammatical arguments, and therefore exempt from a morphological referencing requirement.

²⁷A reviewer points out that the strongest evidence for a distinction between inanimate (neuter) nominals and feminine/zoic nominals comes from their behaviour as *internal arguments*. Specifically, despite robust syncretism between neuter and zoic

This conclusion converges with other recent work which has brought more empirical evidence to bear on properties of Northern Iroquoian, for example, on the question of whether all unincorporated nominals are clausal adjuncts. DeCaire et al. (2017) show that incorporation of internal arguments in Kanien’kéha is not *optional*, as characterized in Baker 1988, 1996, but rather *required* whenever it is possible. It is impossible, they demonstrate, when the internal argument is focussed. In response to the question in (81a), the object receives corrective focus and must appear unincorporated and preverbally, as in (81b). The incorporated version in (81c) is infelicitous in this context.

- (81) a. *Wahahonwahni:non’ ken ne Sewatis?*
 wa’-ra-honw-a-hninon-’ ken ne Sewatis
 FACT-MSGA-boat-JR-buy-PUNC Q NE John
 ‘Did John buy a boat?’
- b. *Iah. Ka:sere wahahní:non’.*
 iah ka-’ser-e wa’-ra-hninon-’
 no NA-car-SUF FACT-MSGA-buy-PUNC
 ‘No. He bought a car_[FOC].’
- c. *#Iah. Waha’serehtahní:non’.*
 iah wa’-ra-’sereht-a-hninon-’
 no FACT-MSGA-car-JR-buy-PUNC
 ‘No. He bought a car.’ (DeCaire et al. 2017, 4)

Boles (2024) outlines an account of noun incorporation in which incorporated nominals do not involve a dedicated movement operation (as in the MVC), but rather lack D⁰-level material and form part of the larger stem-building process; DP structure, required to host focus features, interrupts incorporation. Flaim (2025) further investigates information structure in Kanien’éha, and identifies topic and focus positions at the left edge of the clause, which she identifies with Spec,CP and Spec,TP, respectively. A context triggering both topics and foci is given in (82).

- (82) a. **Question:** What are you going to buy your son and daughter for Christmas?
- b. *Riién:’a_[TOP] okón:tshera’_[FOC] enhihnínon’sé’...*
 riien’a okontshera en-ri-hninon-’s-e’
 my.son paint FUT-1SG>MSG-buy-BEN-PUNC
 ‘My son, I’ll buy him paint...’
- c. *kheién:’a_[TOP] ahthé:non_[FOC] enkhehnínon’sé’.*
 kheien’a ahthenon en-khe-hninon-’s-e’
 my.daughter ball FUT-1SG>F-buy-BEN-PUNC
 ‘my daughter, I’ll buy her a soccer ball.’ (Flaim 2025)

Dedicated preverbal topic and focus positions, combined with the possibility of clause-final “anti-topics” (see Chafe 1976), allows for all six possible permutations of subject, verb, and object, discussed in Baker 1996 and other works. Crucially, however, a requirement that all overt nominals be high freely-ordered clausal adjuncts—as required by the MVC—does not easily capture these patterns; imposing information-structure based ordering requirements on high adjuncts would simply replicate cross-linguistically common clausal properties in a new domain. While a full review of the impacts of the MVC in Kanien’kéha grammar

forms, pronominal prefixes with 3rd person non-singular external arguments distinguish between forms with feminine/zoic versus neuter internal arguments (see (10) and the table in app. A). Similarly, we observed a difference in the stative shift pattern for neuter versus zoic internal arguments (see e.g., (49) versus (50) in §3). While it would therefore be possible to stipulate the presence of ϕ -features on inanimate *external* arguments (e.g., the [PERS[ANIM]] features proposed for feminine/zoic in (8)), I assume that nominals of a particular gender are consistent in their featural make-up across different constructions.

is outside the scope of this work (and see [Koenig and Michelson 1998](#)), it is worth noting that several correlates of polysynthesis proposed in [Baker 1996](#)—for example, an absence of nominal anaphors and the absence of nonreferential quantified nominals—are *consistent* with the claim that all nominals are adjuncts, but do not necessitate this conclusion. See also [Boles in prep](#) for an updated look at the Condition C effects discussed in [Baker 1996](#).

Where does all of this leave polysynthesis? I conclude in the spirit of [Haspelmath's \(2018\)](#) review of the *Handbook of Polysynthesis* ([Fortescue et al. 2017](#)) that “polysynthesis” is likely best not treated as a technical term or single property for which a single parameter should account. Rather, the unique grammatical properties of Kanien'kéha can be viewed as the cumulative effect of smaller properties. Recent crosslinguistic work in the domain of argument structure and agreement has broadened its scope and worked to account for a typologically broader set of languages. As highlighted throughout the discussion above, all of the formal ingredients used to capture the complex Kanien'kéha patterns find precedent in the literature. A single big macroparametric difference—either via the wholesale absence of a level of syntactic argument structure, as in [Koenig and Michelson 2015](#), or the Morphological Visibility Condition, as in [Baker 1996](#)—is not only unnecessary in order to capture the patterns discussed here, but inconsistent with the full set of empirical facts.

References

- Abbott, Clifford. 1984. Two feminine genders in Oneida. *Anthropological Linguistics* 26:125–137.
- Ackema, Peter, and Ad Neeleman. 2018. *A grammar of person*. Cambridge, MA: MIT Press.
- Akkuş, Faruk, David Embick, and Mohammed Salih. to appear. *Case and the syntax of argument indexation: Sorani Kurdish and beyond*. Oxford Studies in Theoretical Linguistics. Oxford: Oxford University Press.
- Albizu, Pablo. 1997. Generalized Person-Case Constraint: A case for a syntax-driven inflectional morphology. In *Theoretical issues on the morphology-syntax interface*, ed. Miryam Uribe-Etxebarria and Amaya Mendikoetxea, volume XL of *ASJU*, 1–33. Donostia: Gipuzkoako Foru Aldundia/EHU.
- Anagnostopoulou, Elena. 2003. *The syntax of ditransitives: Evidence from clitics*. Berlin: Mouton de Gruyter.
- Anagnostopoulou, Elena. 2005. Holmberg's Generalization and cyclic linearization: Remarks on Fox and Pesetsky. *Theoretical Linguistics* 31:95–110.
- Arregi, Karlos, and Andrew Nevins. 2012. *Morphotactics: Basque auxiliaries and the structure of spellout*. Dordrecht: Springer.
- Baker, Mark, and Lisa deMena Travis. 1998. Events, times, and Mohawk verbal inflection. *Canadian Journal of Linguistics* 43:149–203.
- Baker, Mark C. 1985. The Mirror Principle and morphosyntactic explanation. *Linguistic Inquiry* 16:373–416.
- Baker, Mark C. 1988. *Incorporation: A theory of grammatical function changing*. Chicago, IL: University of Chicago Press.
- Baker, Mark C. 1996. *The Polysynthesis Parameter*. Oxford: Oxford University Press.
- Baker, Mark C. 2003. *Lexical categories: Verbs, nouns and adjectives*. Cambridge University Press.
- Baker, Mark C., and Jonathan David Bobaljik. 2017. On inherent and dependent theories of ergative case. In *The Oxford Handbook of Ergativity*, ed. Jessica Coon, Diane Massam, and Lisa Travis, 111–134. Oxford: Oxford University Press.
- Baker, Mark C., and Ruth Kramer. 2018. Doubled clitics are pronouns: Amharic objects and beyond. *Natural Language and Linguistic Theory* 36:1035–1088.
- Bárány, András. 2024. Case and agreement alignment in ditransitive constructions: A typological gap and its explanation. *Language* 100:385–432.
- Barrie, Michael, and Hiroto Uchihara. 2019. Iroquoian languages. In *The Routledge Handbook of North*

- American Languages*, ed. Daniel Siddiqi, Michael Barrie, Carrie Gillon, Jason Haugen, and Eric Mathieu, chapter 18. Routledge.
- Beavers, John, and Andrew Koontz-Garboden. 2020. *The roots of verbal meaning*. Oxford, UK: Oxford University Press.
- Béjar, Susana. 2003. Phi-syntax: A theory of agreement. Doctoral dissertation, University of Toronto.
- Béjar, Susana, and Milan Rezac. 2003. Person Licensing and the Derivation of PCC Effects. In *Romance Linguistics: Theory and Acquisition*, ed. Ana Teresa Perez-Leroux and Yves Roberge, 49–62. Amsterdam: John Benjamins.
- Béjar, Susana, and Milan Rezac. 2009. Cyclic Agree. *Linguistic Inquiry* 40:35–73.
- Bennett, Ryan, Boris Harizanov, and Robert Henderson. 2018. Prosodic smothering in Macedonian and Kaqchikel. *Linguistic Inquiry* 49:195–246.
- Bertrand, Anne, Yurika Aonuki, Sihwei Chen, Henry Davis, Joash Gambarage, Laura Griffin, Marianne Huijsmans, Lisa Matthewson, Daniel Reisinger, Hotze Rullmann, Raiane Salles, Michael David Schwan, Neda Todorović, Bailey Trotter, and Jozina Vander Klok. 2022. Nobody’s perfect. *Languages* 7:148.
- Bhatia, Sakshi, and Rajesh Bhatt. 2023. Copular agreement in Hindi-Urdu. *Glossa: A journal of general linguistics* 8.
- Boas, Franz. 1909. Notes on the Iroquoia language. In *Putnam anniversary volume*. New York.
- Boles, Chase. 2024. Stowaway themes: Incorporation, possession, and nps in Kanien’kéha. BA thesis, McGill University.
- Boles, Chase. in prep. Condition C in Kanien’kéha. Paper to be presented at the 43rd *West Coast Conference on Formal Linguistics* (WCCFL 43).
- Bonvillain, Nancy. 1973. *A grammar of Akwesasne Mohawk*. Ottawa: Mercury Series.
- Bowern, Claire. 2008. *Linguistic fieldwork: A practical guide*. New York, NY: Palgrave MacMillan.
- Brant, Tahohtharátýe Joe. 2016. Entewà:ron’k: We will be speakers. Master’s thesis, University of Victoria, Victoria, British Columbia.
- Brant, Tahohtharátýe William Joseph (Joe). 2023. *Tó: nya’téká:yen tsi Entewà:ronke’: Onkwehonwe’néha* documentation for advanced adult Kanyen’kéha learning. Doctoral Dissertation, University of Victoria, Victoria, British Columbia.
- Bruening, Benjamin. 2010. Double object constructions disguised as prepositional datives. *Linguistic Inquiry* 41:287–305.
- Chafe, Wallace. 1976. Givenness, contrastiveness, definiteness, subjects, topics, and point of view. In *Subject and topic: A new typology of language*, ed. Charles N. Li, 25–56. New York: Academic Press.
- Chafe, Wallace. 1977. The evolution of third person verb agreement in the Iroquoian languages. In *Mechanisms of syntactic change*, ed. Charles N. Li, 493–524. University of Texas Press.
- Chafe, Wallace. 2012. Are adjectives universal? the case of Northern Iroquoian. *Linguistic Typology* 16:1–39.
- Comrie, Bernard. 1976. *Aspect*. Cambridge, MA: MIT Press.
- Coon, Jessica. 2013. *Aspects of split ergativity*. Oxford: Oxford University Press.
- Coon, Jessica. 2017. Little-v agreement and templatic morphology in Ch’ol. *Syntax* 20:101–137.
- Coon, Jessica, Nico Baier, and Theodore Levin. 2021. Mayan Agent Focus and the Ergative Extraction Constraint: Facts and fictions revisited. *Language* 97:269–332.
- Coon, Jessica, and Stefan Keine. 2021. Feature gluttony. *Linguistic Inquiry* 52:655–710.
- Cowper, Elizabeth A. 2005. A note on number. *Linguistic Inquiry* 36:441–455.
- Cross, Tehokwiráthe, Terrance Gatchalian, Katya Morgunova, Willie Myers, and Ro’nikonhkátste Norton. to appear. Lexical aspect and the stative present in Kanien’kéha. In *Proceedings of the 2023 Workshop on Structure and Constituency of Languages of the Americas* (WSCLA). UBC Working Papers in Linguistics. Paper presented the *Workshop on Structure and Constituency of Languages of the Americas*.
- Culbertson, Jennifer, and Géraldine Legendre. 2014. Prefixal agreement and impersonal ‘il’ in Spoken French: Experimental evidence. *French Language Studies* 24:83–105.

- DeCaire, Oheróhskon Ryan. 2023. The role of adult immersion in Kanien'kéha revitalization. Doctoral Dissertation, University of Hawa'i at Hilo.
- DeCaire, Ryan. 2016. Kanien'kéha verb forms. Class materials, University of Toronto.
- DeCaire, Ryan, Alana Johns, and Ivona Kučerová. 2017. On optionality in Mohawk noun incorporation. *Toronto Working Papers in Linguistics* 39.
- Deering, Nora, and Helga Harries Delisle. 1976. *Mohawk: A teaching grammar*. Manitou College.
- Diesing, Molly. 1988. Bare plural subjects and the stage/individual contrast. In *Genericity in natural language: Proceedings of the 1988 Tübingen conference*, ed. Manfred Krifka. Tübingen.
- Diesing, Molly. 1990. Verb movement and the subject position in Yiddish. *Natural Language and Linguistic Theory* 8:41–79.
- Dryer, Matthew S. 1986. Primary objects, secondary objects, and antitatives. *Language* 62:808–845.
- Embick, David, and Rolf Noyer. 2001. Movement operations after syntax. *Linguistic Inquiry* 32:555–595.
- Flaim, Sophia. 2025. Information structure in Kanien'kéha. BA thesis, McGill University.
- Foley, Steven, and Maziar Toosarvandani. 2022. Extending the Person-Case Constraint to gender: Agreement, locality, and the syntax of pronouns. *Linguistic Inquiry* 53:1–40.
- Fortescue, Michael, Marianne Mithun, and Nicholas Evans, ed. 2017. *The Oxford Handbook of Polysynthesis*. Oxford: Oxford: Oxford University Press.
- Gatchalian, Terrance. 2025. Cessation inferences with optional pasts in Kanien'kéha. Ms. McGill University.
- Gatchalian, Terrance. in prep. A temporal grammar of Kanien'kéha: Aspects and consequences. Doctoral Dissertation, McGill University, Montreal, QC.
- Green, Jeremy D. 2009. Indigenous emancipatory pedagogy, step 1: Understanding the process of Kanyen'keha language shift. Master's thesis, York University, Toronto, Ontario.
- Hale, Kenneth. 1983. Walpiri and the grammar of non-configurational languages. *Natural Language and Linguistic Theory* 1:5–48.
- Harley, Heidi. 2002. Possession and the double object construction. *Linguistic Variation* 2.
- Harley, Heidi. 2017. The 'bundling' hypothesis and the disparate functions of little *v*. In *The verbal domain*, ed. Roberta D'Alessandro, Irene Franco, and Ángel Gallego, 3–28. Oxford: Oxford University Press.
- Harley, Heidi, and Elizabeth Ritter. 2002. Person and Number in Pronouns: A Feature-Geometric Analysis. *Language* 78:482–526.
- Haspelmath, Martin. 2018. The last word on polysynthesis: A review article. *Linguistic Typology* 22:307–326.
- Hiraiwa, Ken. 2001. Multiple agree and the defective intervention constraint in Japanese. In *The proceedings of the MIT-Harvard joint conference (HUMIT 2000)*, ed. Ora Matushansky, MIT Working Papers in Linguistics 40, 67–80. Cambridge, MA: MIT Working Papers in Linguistics.
- Hiraiwa, Ken. 2005. Dimensions of symmetry in syntax: Agreement and clausal architecture. Doctoral Dissertation, MIT, Cambridge, MA.
- Hoekstra, Jarich. 2010. On the impersonal pronoun *men* in Modern West Frisian. *The Journal of Comparative Germanic Linguistics* 13:31–59.
- Hualde, José I. 1989. Double object constructions in KiRimi. In *Current approaches to African linguistics*, ed. Paul Newman and Robert D. Botne, volume 8 of *Publications in African Languages and Linguistics*, 179–189. Mouton de Gruyter.
- Jelinek, Eloise. 1984. Empty Categories, Case, and Configurationality. *Natural Language and Linguistic Theory* 2:39–76.
- Keine, Stefan. 2023. Feature gluttony in Senaya differential object marking. Ms. UCLA.
- Keine, Stefan, and Jon Ander Mendia. 2022. Silencing the PCC. Ms. UCLA and Universitat Autònoma de Barcelona.
- Keine, Stefan, Will Oxford, and Jessica Coon. 2022. Person restrictions depend on overt agreement, not

- nominal licensing. In *Proceedings of the 52nd meeting of the Northeast Linguistics Society (NELS 52)*, ed. Özge Bakay, Breanna Pratley, Eva Neu, and Peyton Deal, 139–148. Amherst, MA: GLSA.
- Keine, Stefan, Michael Wagner, and Jessica Coon. 2019. Hierarchy effects in copula constructions. *Canadian Journal of Linguistics* 64:617–648.
- Koenig, Jean-Pierre, and Karin Michelson. 1998. The Polysynthesis Parameter, by Mark Baker (review). *Language* 74:129–136.
- Koenig, Jean-Pierre, and Karin Michelson. 2015. Invariance in argument realization: The case of Iroquoian. *Language* 91:1–47.
- Kramer, Ruth. 2014. Clitic doubling or object agreement: An Amharic investigation. *Natural Language and Linguistic Theory* 32:593–634.
- Kratzer, Angelika. 1995. Stage-level/individual-level predicates. In *The generic book*, ed. G. N. Carlson and F. J. Pelletier, 125–175. University of Chicago Press.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase Structure and the Lexicon*, ed. Johan Rooryck and Laurie Zaring, 109–137. Dordrecht: Kluwer Academic Publishers.
- Kratzer, Angelika. 2001. Building stativs. In *Proceedings of the 26th Berkeley Linguistics Society (BLS 26)*. Berkeley Linguistics Society.
- Laka, Itziar. 2006. Deriving Split Ergativity in the Progressive: The case of Basque. In *Ergativity: Emerging Issues*, ed. Alana Johns, Diane Massam, and Juvenal Ndayiragije, 173–196. Dordrecht: Kluwer Academic Publishers.
- Lazore, Dorothy. 1993. The Mohawk language standardisation project: Conference report. Technical report, Literacy Ontario.
- Legate, Julie Anne. 2017. The locus of ergative case. In *The Oxford Handbook of Ergativity*, ed. Jessica Coon, Diane Massam, and Lisa Travis, 135–158. Oxford: Oxford University Press.
- Little, Carol Rose. 2024. Impersonal morphosyntax in generative grammar. *Language and Linguistics Compass* 18:1–17.
- LiVolsi, Simon. in prep. Syllable structure and stress in Kanien'kéha. Master's thesis, McGill University, Montreal, QC.
- Lochbihler, Bethany, Will Oxford, and Nicholas Welch. 2021. The person-animacy connection: Evidence from Algonquian and Dene. *Canadian Journal of Linguistics* 66:431–442.
- Lounsbury, Floyd. 1953. *Oneida verb morphology*. New Haven, CT: Yale University Press.
- Lounsbury, Floyd Glen. 1978. Iroquoian languages. In *Handbook of North American Indians*, ed. B.G. Trigger, volume 15, 334–343. Washington, DC: Smithsonian Institute.
- Marantz, Alec. 1988. Clitics, morphological merger, and the mapping to phonological structure. *Theoretical Morphology* 253–270.
- Martin, Akwiratékha'. 2017. *Kanien'kéha ratiwennahní:rats iekawennahsonterónnion tekeníhaton iohserá:te. Kahnawà:ke: Kanien'kehá:ka Onkwawén:na Raotitióhkwa Onkwawén:na Ionkwaio'ténion*.
- Martin, Akwiratékha'. 2023a. Interviews. Kanien'kéha language consultation work with the author.
- Martin, Akwiratékha'. 2023b. *Tekawennahsonterónnion: Kanien'kéha morphology. Kanien'kehá:ka Onkwawén:na Raotitióhkwa Onkwawén:na Ionkwaio'ténion*.
- Martin, Akwiratékha'. 2025. Interviews. Kanien'kéha language consultation work with the author.
- Matthewson, Lisa. 2004. On the methodology of semantic fieldwork. *International Journal of American Linguistics* 70:369–415.
- McDonald, Mary Onwá:ri Tekahawáhkwen. 2023. Interviews. Kanien'kéha language consultation work with the author.
- McDonald, Mary Onwá:ri Tekahawáhkwen. 2025. Interviews. Kanien'kéha language consultation work with the author.
- Michelson, Karin. 1975. Mohawk aspect suffixes. BA Honours Thesis, McGill University.
- Michelson, Karin. 1988. *A comparative study of Lake-Iroquoian accent*. Dordrecht: Kluwer Academic Pub-

- lishers.
- Michelson, Karin. 2015. Gender in Oneida. In *Gender across languages*, ed. Marlis Hellinger and Heiko Motschenbacher, volume 4, 277–301. John Benjamins.
- Michelson, Karin. 2016. Iroquoian languages. In *Oxford research encyclopedia of linguistics*. Oxford University Press.
- Michelson, Karin. 2023a. Reflexive prefixes in Oneida. In *Reflexive constructions in the world's languages*, ed. Katarzyna Janic, Nicoletta Puddu, and Martin Haspelmath, Research on Comparative Grammar 3, 675–694. Berlin: Language Science Press.
- Michelson, Karin. 2023b. Word classes in Iroquoian languages. In *The Oxford Handbook of Word Classes*, ed. Eva van Lier. Oxford: Oxford University Press.
- Michelson, Karin. to appear. Word classes in Iroquoian languages. In *The oxford handbook of word classes*, ed. Eva van Lier. Oxford: Oxford University Press.
- Michelson, Karin, Norma Kennedy, and Mercy A. Doxtator. 2016. *Glimpses of Oneida life*. Toronto, Ontario: University of Toronto Press.
- Michelson, Karin, and Catherine Price. 2011. *Oneida, Cayuga, and Mohawk*. Native Languages: A Support Document for the Teaching of Language Patterns. Ontario Ministry of Education.
- Mithun, Marianne. 1986. When zero isn't there. In *Proceedings of the 12th annual meeting of the Berkeley Linguistics Society*, 195–211. Berkeley.
- Mithun, Marianne. 1991. Active/agentive Case Marking and Its Motivations. *Language* 67:510–546.
- Mithun, Marianne. 2005. Beyond the core: Typological variation in the identification of participants. *International Journal of American Linguistics* 71:445–472.
- Mithun, Marianne. 2006a. Iroquoian languages. In *Encyclopedia of Languages and Linguistics*, ed. Keith Brown, volume 6, 31–34. Oxford: Elsevier.
- Mithun, Marianne. 2006b. Voice without subjects, objects, or obliques: Manipulating argument structure in Agent/Patient systems (Mohawk). In *Voice and grammatical relations: In honour of Masayoshi Shibatani*, ed. Tasaku Tsunoda and Taro Kageyama, Typological Studies in Language, 195–216. John Benjamins Publishing Company.
- Mithun, Marianne. 2009. Iroquoian: Mohawk. In *The oxford handbook of compounding*, ed. Rochelle Lieber and Pavol Štekauer. Oxford University Press.
- Mithun, Marianne. 2014. Gender and culture. In *The expression of cognitive categories*, ed. Greville G. Corbett, volume 6, 131–160. Berlin: Mouton de Gruyter.
- Mithun, Marianne. 2017. The Iroquoian language family. In *Cambridge handbook of linguistic typology*, ed. Alexandra Y. Aikhenvald and Robert M. W. Dixon, 747–781. Cambridge University Press.
- Mithun, Marianne, and Ryan DeCaire. 2023. Iroquoian. In *The languages and linguistics of Indigenous North America*, ed. Carmen Jany, Marianne Mithun, and Keren Rice. De Gruyter Mouton.
- Myers, Willie. to appear. An operator-particle approach to *again* doubling in Kanien'kéha. In *Proceedings of the 55th conference of the North East Linguistics Society (NELS 55)*, ed. Duygu Demiray, Roger Cheng yen Liu, and Nir Segal. GLSA.
- Nevins, Andrew. 2007. The representation of third person and its consequences for Person-Case effects. *Natural Language and Linguistic Theory* 25:273–313.
- Nichols, Johanna. 1986. Head-marking and dependent-marking grammar. *Language* 62.
- Ormazabal, Javier, and Juan Romero. 2007. The Object Agreement Constraint. *Natural Language and Linguistic Theory* 25:315–347.
- Ormston, Jennifer. 1993. Some aspects of Mohawk: The system of verbal inflectional categories. Master's thesis, McGill University, Montréal, QC.
- Oxford, Will. 2019. Inverse marking and Multiple Agree in Algonquian: Complementarity and variability. *Natural Language and Linguistic Theory* 37:955–996.
- Paparounas, Lefteris. 2025. Greek stative passives as small non-passives. Ms., Université du Québec à

- Montréal.
- Poletto, Cecilia, and Christina Tortora. 2016. Subject clitics: Syntax. In *The Oxford Guide to Romance Languages*, ed. Adam Ledgeway and Martin Maiden, 772–785. Oxford University Press.
- Preminger, Omer. 2009. Breaking Agreements: Distinguishing Agreement and Clitic-Doubling by Their Failures. *Linguistic Inquiry* 40:619–666.
- Preminger, Omer. 2014. *Agreement and its failures*. Cambridge, MA: MIT Press.
- Preminger, Omer. 2019. What the PCC tells us about “abstract” agreement, head movement, and locality. *Glossa* 4(1):13.
- Pylkkänen, Liina. 2002. Introducing Arguments. Doctoral dissertation, MIT, Cambridge, MA.
- Pylkkänen, Liina. 2008. *Introducing arguments*. Linguistic Inquiry Monographs. Cambridge, MA: MIT Press.
- Rappaport-Hovav, Malka, and Beth Levin. 2001. An event structure account of English resultatives. *Language* 77:766–797.
- Rezac, Milan. 2008. The syntax of eccentric agreement: The Person Case Constraint and Absolutive Displacement in Basque. *Natural Language and Linguistic Theory* 26:61–106.
- Riedel, Kristina. 2009. The syntax of object marking in Sambia: A comparative Bantu perspective. Doctoral Dissertation, Leiden University, Utrecht: LOT Dissertation Series.
- Rizzi, Luigi. 1990. *Relativized minimality*. Cambridge, MA: MIT Press.
- Shibatani, Masayoshi, and Prashant Pardeshi. 2002. The causative continuum. In *The grammar of causation and interpersonal manipulation*, ed. Masayoshi Shibatani, 85–126. Amsterdam, Philadelphia: John Benjamins.
- Sigurðsson, Halldór Ármann. 1996. Icelandic Finite Verb Agreement. *Working Papers in Scandinavian Syntax* 57:1–46.
- Stacey, Kahtehrón:ni Iris. 2016. *Ientsitewate'nikonhraié:ra'te Tsi Nonkwá:ti Ne Á:se Tahatikonhsontóntie*: We will turn our minds there once again, to the faces yet to come. Master's thesis, University of Victoria, Victoria, British Columbia.
- Stacey, Kahtehrón:ni Iris. 2024. Women, kinship, and language resurgence in kah Nawà:ke: Advanced pedagogies within a peer group model. Doctoral Dissertation, McGill University, Montréal, QC.
- Toosarvandani, Maziar. 2023. The interpretation and grammatical representation of animacy. Ms. University of California Santa Cruz.
- Van Valin, Robert D. 1985. Case marking and the structure of the Lakhota clause. In *Grammar inside and outside the clause*, ed. Johanna Nichols and Anthony Woodbury, 363–413. Cambridge: Cambridge University Press.
- Wiltschko, Martina. 2006. On ‘ergativity’ in Halkomelem Salish. In *Ergativity: Emerging issues*, ed. Alana Johns, Diane Massam, and Juvenal Ndayiragije, 197–227. Dordrecht: Springer.
- Woodbury, Hanni. 1975. Noun incorporation in Onondaga. Doctoral Dissertation, Yale University, New Haven, CT.

A Kanien’kéha pronominal prefixes

The table in Figure A gives the full set of pronominal prefixes for Kanien’kéha for consonant-initial stems (“C-stems”). The forms are from [Martin 2023b](#), where forms for other stem types can also be found. The format follows that in [Lounsbury 1953](#) with modifications from [Michelson et al. 2016](#) for Oneida. Agent and patient prefixes are shown in red and blue, respectively. As discussed above, these forms are used for verbs with only a single animate argument, regardless of whether they are intransitive (i.e., the animate argument is the only argument) or transitive (i.e., one of the two arguments is neuter). Note that they are almost—but not entirely—syncretic with feminine/zoic forms. Finally, following [Michelson 2016](#), the “neuter” or default prefixes are placed outside of the table, illustrating that they do not otherwise participate in the system.

P → A ↓	1SG	1DU	1PL	2SG	2DU	2PL	Agent	FZSG	MSG	FI	FZDU/PL	MDU/PL	N					
1SG							<i>kon-</i>			<i>k(e)-</i>	<i>ri-</i>	<i>khe-</i>						
1EX.DU											<i>keni-</i>			<i>iakeni-</i>	<i>hshakeni-</i>	<i>iakhi-</i>		
1EX.PL											<i>kwa-</i>			<i>iakwa-</i>	<i>hshakwa-</i>			
1IN.DU														<i>teni-</i>	<i>tshiteni-</i>	<i>iethi-</i>		
1IN.PL										<i>tewa-</i>	<i>tshitewa-</i>							
2SG							<i>tak(e)-</i>							<i>hshe-</i>	<i>tsh(e)-</i>	<i>hshe-</i>		
2DU							<i>takeni-</i>							<i>seni-</i>	<i>tshiseni-</i>	<i>ietshi-</i>		
2PL							<i>takwa-</i>							<i>sewa-</i>	<i>tshisewa-</i>			
Patient	<i>wak(e)-</i>	<i>ionkeni-</i>	<i>ionkwa-</i>	<i>sa-</i>	<i>seni-</i>	<i>sewa-</i>		<i>io-</i>	<i>ro-</i>	<i>iako-</i>	<i>ioti-</i>	<i>roti-</i>	<i>io-</i>					
FZSG							<i>ka-</i>											
MSG	<i>rake-</i>	<i>hshonkeni-</i>	<i>hshonkwa-</i>	<i>hia-</i>	<i>tshiseni-</i>	<i>tshisewa-</i>	<i>ra-</i>			<i>hshako-</i>								
FI	<i>ionk(e)-</i> <i>ionkhi-</i>			<i>ionsa-/</i> <i>iesa-</i> <i>ietshi-</i>				<i>ie-</i>	<i>konwa-</i>	<i>ronwa-</i>	<i>iontate-</i>		<i>konwati-</i>	<i>ronwati-</i>				
FZDU								<i>keni-</i>			<i>iakoti-</i>							
FZPL								<i>konti-</i>										
MDU								<i>hni-</i>										
MPL							<i>rati-</i>											
N													<i>ka-</i>					

Figure 1: Kanien'kéha C-stem pronominal prefixes from Martin 2023b, following the format of Michelson et al. 2016

B Stative-only forms and inherent states

As Koenig and Michelson (2015) note, while the stative shift pattern described in section 3 is consistent across the types of forms discussed above, it is not actually the case that *all* stative forms with a single animate argument take patient prefixes. Specifically, stative forms denoting *inherent states* appear with A-prefixes. These can be grouped into two categories, discussed in Mithun 2006b.

First, while some of the so-called “stative-only” forms, like ‘be hard’ in (41) above and ‘be full’ in (83a), appear with P-prefixes, others, like ‘be big’ in (83b) appear with A-prefixes. Unlike the stative forms built from eventive verbs in sections 3.1–3.2, these stems do not have perfective/imperfective counterparts (compare the examples in (36)), and instead require derivational morphology such as inchoative or causative in order to inflect for other aspects.

- (83) a. *róhton*
ro-h-ton
MSGP-full.STAT
‘he is full’
b. *rakowá:nen*
ra-kowan-en
MSGA-big-STAT
‘he is big’ (Mithun 2006b, 198)

As Mithun (1991, 2006b) describes, among stative-only forms, A-prefixes tend to appear with *inherent states*, while P-prefixes tend to appear with situations that “are viewed as temporary, or the result of previous events” (Mithun 2006b, 198).

Second, in addition to the stative-only stems, Mithun (2006b) notes that verb stems which may appear in all three aspects can appear with A-prefixes in the stative aspect, as shown by the examples in (84).

- (84) a. *kana'tarakwè:taron*
ka-na'tar-a-kwe'tar-on
NA-bread-JR-slice-STAT
‘the bread is sliced’ = ‘the sliced bread’
b. *kaksahrónnion'*
ka-ks-a-hr-onnion'
NA-dish-LK-set-DISTR.STATE
‘the table is set’ (i.e., dishes are set on the table) (Mithun 2006b, 206)

According to Mithun (2006b, 206), these contrast with minimally-different P-prefix stative-perfects from section 3 in that they remove the implication of an agent and, Mithun writes, “eliminate the indirect reference to a prior event”. These “inherent statives” are instead used to describe persons or objects in a state or condition.²⁸ Mithun concludes that these fit with the larger generalization about the distribution of A- and P-prefixes: “Agent prefixes tend to be used with inherent states, while Patient prefixes are used with temporary states or those that are portrayed as the result of previous events or processes” (pg. 206).

The minimal pairs shown in (85) and (86) allow us to appreciate the pattern: in (85a) and (86a) P-prefixes index the agents and a perfect interpretation arises, as discussed in section 3. In (85b) and (86b) A-prefixes index the patients and a simple stative interpretation arises; the stem forms are otherwise identical.

²⁸Mithun (2006b) labels these forms as “resultatives”, though as an anonymous reviewer notes, this term is typically used cross-linguistically to refer to constructions involving a result state but which also entail a pre-state in which the result does not hold (e.g., English forms like ‘The pond froze solid’; see Rappaport-Hovav and Levin 2001). As it is clear from Mithun’s description that these Kanien’kéha forms specifically *do not* entail a pre-state, I label these “inherent statives” here.

- (85) a. *tewákhneren*
te-**wak**-hneren
DUP-1SGP-tie.STAT
'I have tied it together'
- b. *tékhneren*
te-**k**-hneren
DUP-1SGA-tie.STAT
'I am tied up' (Martin 2023a)
- (86) a. *rotihnhó:ton*
roti-nhoton
MPLP-close.STAT
'they have closed it'
- b. *ratihnhó:ton*
rati-nhoton
MPLA-close.STAT
'they are locked up' (Mithun 2006b)

I assume that the perfect forms in (85a) and (86a) have structures like the one shown in (47) above: a transitive clause is built up to Voice+vP, and then is selected by a v_{BE}^0 which includes a $[u\phi]_P$ -probe. This is a state built on top of an eventive predicate, aligning with the perfect reading (the upper-right cell in (88)); see Gatchalian in prep for details on stative perfect interpretations.

The inherent statives in (85b) and (86b), on the other hand, include no implication of an agent. While agents may naturally be inferred from certain contexts, examples like the one in (87) confirm that, in line with Mithun's description, no agent is entailed.

- (87) **Context:** You walk by a cave and see people who are trapped in by a boulder. You say:

Ratihnhó:ton, nek tsi iah ónhka tehonwatihnhó:ton.
rati-hnhoton nek tsi iah onhka te-**ronwati**-hnoton
MPLA-close.STAT but NEG who NEG-FI>MPL-close.STAT

'They are locked up, but nobody locked them up.' (Martin 2025)

The distribution of stative stems with A- and P-prefixes is summarized in table (88).

- (88) *Prefixes in stative forms*

	stative stems ("stative-only")	eventive stems
P-prefixes	transitory states (83a)	stative perfects (85a)/(86a)
A-prefixes	inherent states (83b)	inherent statives (85b)/(86b)

I suggest that the special A-marking found on *inherent states* is entirely compatible with the proposal from section 3.2 that the stative is an instantiation of v^0 which always bears a $[u\phi]_P$ -probe. Specifically, the difference in prefix choice aligns with work which has independently argued for differences in *argument structure* between inherent and transitory states.

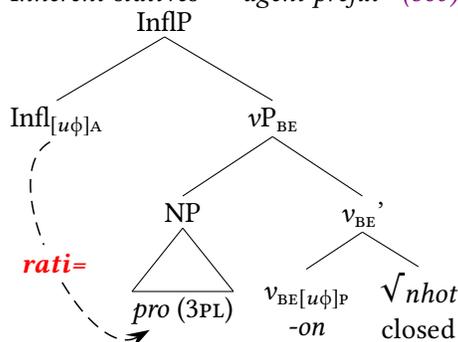
Paparounas (2025), for example, examines so-called "stative passives" in Greek, which at least superficially share properties in common with the Kanien'kéha inherent statives in (84a) and (85a). Namely, in the Greek stative passive formed with the participial morpheme *-men* in (89a), there is no VoiceP which introduces an agent, and though they are event-entailing, Paparounas shows that the event is not syntactically accessible. This contrasts with the regular eventive passive in (89b).

- (89) a. I zoni ine asfal-iz-**men**-i.
the.NOM belt.NOM be.3SG secure-VBZ-PTCP-F.NOM
'The seatbelt is secured.'
- b. I zoni asfal-is- θ -ik-e.
the.NOM belt.NOM secure-VBZ-PFV.NACT-PST-3SG
'The seatbelt was secured.'
- (Greek; Paparounas 2025, 3)

Paparounas argues that the label “passive” is a misnomer for forms like (89a); rather, these participial *men*-forms involve a smaller structure in which the theme is not an internal argument of the verb—i.e., does *not* occupy the same position as the theme of the eventive passive in (89b)—but instead is a direct argument of a *stative projection* headed by *men*. Thematically, the subject of (89a) a state-holder.

I sketch a simplified version of this analysis for the Kanien’éha A-prefix bearing statives in (90). Under this approach, these statives are built from a more reduced structure than their perfect counterparts; no eventive *vP* or VoiceP layers are present, as indicated by the absence of implication of a change of state. The root *nhot* ‘be closed’ instead merges directly with stative v_{BE} , *-on*, which following Paparounas, existentially closes the event. The subject is merged as an argument of the stative head, in Spec, vP_{BE} . Crucially, for our purposes, the $[u\phi]_P$ -probe on the stative head does not find a lower goal and the subject is instead targeted by the $[u\phi]_A$ -probe on Infl^0 .²⁹ I suggest that a similar account could be extended to the A-prefix bearing stative-only forms like (83b) above.

(90) *Inherent statives* → *agent prefix* =(86b)



Paparounas’ work builds on Kratzer’s work on statives; Kratzer (2001) focuses on stative passives, and in turn draws on Kratzer 1995, which argues for a difference in *argument structure* between *stage-level* and *individual-level* predicates more generally (see Diesing 1988, 1990). Subjects of stage-level predicates (i.e., Kanien’kéha P-statives) are generated *lower* than subjects of individual-level predicates (i.e., A-statives). While further work is needed to test the predictions this account would make for Kanien’kéha, a similar approach could be applied here: the subject of a stage-level P-prefix predicate like *hton* ‘be full’ in (83a) would merge as an argument of the lexical predicate below the stative head, while the subject of *kowanen* ‘be big’ in (83b) would merge higher, as the subject of the stative head itself, as in (90).

Further diagnostics are needed to confirm that this is an appropriate syntax for Kanien’kéha statives, and I leave a full analysis of this pattern as a topic for future work. Nonetheless, I hope to have shown that the appearance of A-prefixes on Kanien’kéha inherent statives aligns with independently-proposed differences in argument structure across different types of states, and can be captured by the probe system proposed above.

²⁹While I remained noncommittal about the precise identity of Infl^0 above—i.e., whether it is associated with grammatical aspect, or null tense, A-prefixes on statives suggest that the probe that hosts A-prefixes should be identified with tense. Stative forms never cooccur with habitual or punctual aspect, they freely appear with optional past tense morphemes, as shown in (i), a past-marked form of (86b). See Gatchalian 2025 for details on optional past tense marking and semantic motivations for T^0 .

- (i) Context: When I walked into the abandoned house yesterday, the table was set with dishes. Today I came back and the dishes are gone!

thetén:re' kaksahrhónnionhkwe'
 thetenre' **ka**-ks-a-hr-onnion'-hkwe
 yesterday NA-dish-LK-set-DISTR.STAT-FOR.PST

‘The table was set yesterday.’

(McDonald 2025)