LEFT MARGIN SYNTAX OF KANIEN'KÉHA[*]

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Abstract: We provide a description and analysis of the left margin syntax of Kanien'kéha (Mohawk; northern Iroquoian) as it relates to clause-typing and propose that there are three C-typing layers. One layer—which we label *c*—is external to the verb complex. The other two layers—which we label C_{FORCE} and $C_{FINITENESS}$—are realized as a set of modality and aspect-sensitive mood morphemes called pre-prefixes (Lounsbury 1953, Bonvillain 1989, Hopkins 1988, Mithun 1989). Key to our proposal is evidence from previously unanalyzed paradigmatic gaps and suppletion, which allow us to detect two important features of Kanien'kéha C-typing: (i) it uses scalar logic; and (ii) it is sensitive to the contrast between AFFIRMATIVE and NEGATIVE polarity. Our analysis has implications for linguistic theory (relative to how scales and polarity manifest in natural language) and for language pedagogy (relative to teaching and learning polarity-sensitive C-typing).

1. Research Context and Problem

Kanien'kéha is a polysynthetic northern Iroquoian language with rich agreement and discourse-conditioned word order (Mithun 1987, Chamorro 1992, Decaire et al. 2017).[1] We investigate its left margin syntax, which corresponds to the red-shaded formatives in (1) and includes the particle *tsi* as well as pre-prefixes in the V-complex which interact with C-typing, here contrastive-*th* and optative-*a.* The gloss adopts the convention of enclosing the V-stem in parentheses; this domain (which includes the V-base, pronominal and nominal prefixes, as well as valency and aspectual suffixes) is relevant to our analysis, as it forms not only a morpho-phonological unit (Hopkins 1988) but also a morpho-syntactic unit (AspectP) to which pre-prefixes attach.[2] After showing how Kanien'kéha C-typing relates to the V-complex, we introduce the concept of layered C-typing.

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[1] The Kanien'kéha speech community is distributed across eight sites (Six Nations, Wáhta, Tyendinaga, Kanehsatà:ke, Akwesasne, Kahnawà:ke, Ganienkeh, Kanatsioharèk), with about 3,500 speakers, of which 875 are L1 speakers (Green 2018).

[2] We use the following conventions: 1 = 1st person, 2 = 2nd person, 3 = 3rd person, 3N = 3rd neutral, AFF = affirmative, AGR = agreement, ALIEN = alienable, CNT = contrastive, CNC = coincidential, CNJ = conjectural, CNT = continuative, D = determiner, DIST = distributive, DPL = duplicative, DU = dual, EP = epenthetic vowel, FCT = factual, FCE = force, FIN = finiteness, FOC = focus, FUT = future, GEN = gender, GF = grammatical function, HAB = habitual, HUM = human, IMVE = imperative, INCH = inchoative, INDF = indefinite, ITR = iterative, JN = joiner vowel, LOC = locative, M/MASC = masculine, NEG = negation, NUM = number, O/OB = object, OPT = optative, PERS = person, PFV = perfective, PNC = punctual, POL = polarity, PRT = partitive, PST = posterior, PL = plural, PXL = proximal, RFL = reflexive, REP = repetitive, REV = reversive, S/SU = subject, SG = singular, TRANS = translocative, ZC = zoic, ZN = zoic neutral. Sources are cited as follows: ***F*** = Beatrice

(1) *Ne: ki' ni' ni: wàkehre' tóka' ioiánere'*
FOC actually too 1sg (I.thought) maybe (it.is.good)
'I also thought that maybe it would be good

tsi iah ónhka - akò:ren th-a-iakotó:kenhse'.
c NEG somebody else CNT-OPT-(it.be.certain.to.one)
that no one else would know.' (Mithun 2009, (50))

1.1 Clause-typing morphology: particles and pre-prefixes

Given Kanien'kéha's intricate morphology, a question that arises is how C-typing particles and pre-prefixes are integrated into the V-complex.[3] Consider (2), which represents the embedded clause in (1), where *tsi* realizes *c*, and pre-prefixes realize C_{FCE} and C_{FIN}.[4] We focus our discussion on particles that precede the V-complex, the mode and aspect pre-prefixes (Foster 1985, 1986) that precede the V-stem, and the aspectual suffixes that are conditioned by pre-prefixes.[5] Syntactic analyses generally treat *tsi* as a complementizer (Ikeda 1991, Baker 1991, Mithun 2009), but do not discuss how pre-prefixes relate to C-typing. Using paradigmatic contrasts, we establish the existence of three syntactic C-layers, namely *c* (realized by *tsi*), along with C_{FCE} and C_{FIN} (realized by pre-prefixes).

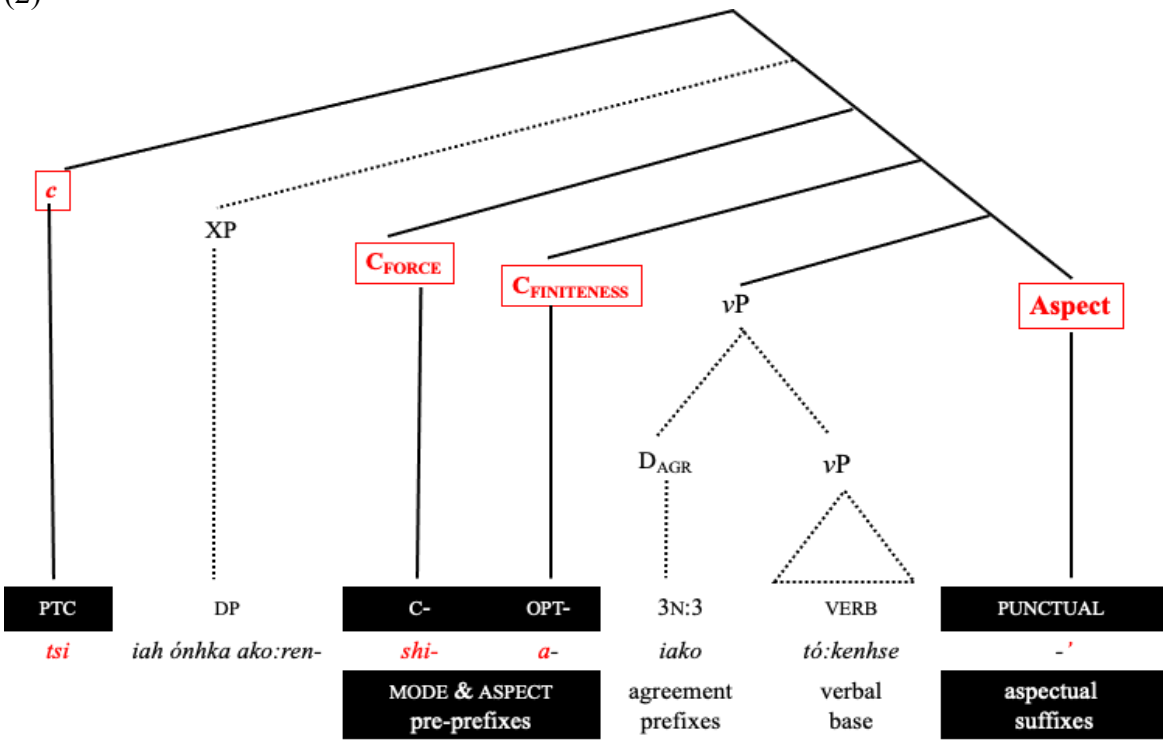
Francis, translated from Oneida 1970, *Bear & Fox*, published in Bonvillain & Francis 1980; ***I*** = Ikeda 1991; ***H*** = Hopkins 1988; ***C1*** = Grace Curotte, *Wenhniserí:yo* (*A Beautiful Day*), recorded 1983, published in Hopkins 1988; ***C2*** = Grace Curotte, *Rahon:tsi* (*Blackie*), recorded 1983, published in Hopkins 1988; ***C3*** = Grace Curotte, *Kana'tarokhun:we* (*Cornbread*), recorded 1983, published in Hopkins 1988; ***Ch*** = Chamorro 1992; ***OCG*** = Ontario Curriculum Guide. If no source is indicated, then we collected the data. Throughout, examples have had their spelling standardized according to the *Mohawk Language Standardization Project* (1993).

[3] The Iroquoianist literature treats pre-prefixes as position classes (Bonvillain 1981, Mithun 2000).

[4] The structure in (2) assumes a left-to-right parse, with morpheme order mapping directly onto syntactic structure (Chandlee 2017, Miller 2018).

[5] The V-stem includes agreement prefixes (Barrie 2003), incorporated Ns (Barrie 2011, Barrie & Mathieu 2016), reflexives and middles (Beatty 1972:91*ff.*), the V-base, and suffixes of valency (Baker 1988) and aspect (Baker & Travis 1998).

(2)



'…that no one else would know'; lit. 'that it would be certain to no one else'

1.2 Clause-typing syntax: *c*…CFORCE…CFINITENESS

The idea that C splits into C_{FCE} and C_{FIN} (Benincà 1996, Rizzi 1997) is widely adopted in analyses of C-typing. Kanien'kéha language-internal evidence supports positing three C-typing layers, as in (3). The highest layer (*c*) is external to the V-complex and is realized by *tsi* (and related formatives). The two other layers—C_{FCE} and C_{FIN}—are realized by pre-prefixes internal to the V-complex. Although the distribution of pre-prefixes is conditioned by C-typing (Bonvillain 1981:60), syntactic analyses have to date not treated them as part of the C-system. Recognizing the C-status of pre-prefixes affords insight into Kanien'kéha C-typing and reveals the existence of a scalar logic.

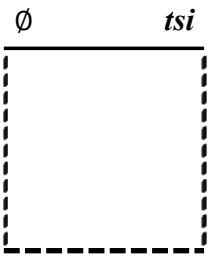
(3) $[_{cP}$ ***c*** … $[_{CP.FCE}$ **CFCE–** $[_{CP.FIN}$ **CFIN–** … $[_{AspP}$ $[_{vP}$ …] -Asp]

Consider (4), which summarizes the paradigmatic contrasts found for each layer of C-typing. With *c* (4a), there is a two-way contrast, namely {∅, *tsi*}. With C_{FCE} (4b), we observe a four-way contrast, organized around two scalar dimensions which monitor updates to the Common Ground (more on this below). One dimension pertains to additive affirmative (aff) force, and shows a two-way contrast: zero-marked versus coincidental sh. The other scale pertains to subtractive aff force, and also shows a two-way contrast: contrastive th versus partitive n. With CFIN (4c), again we observe a four-way contrast, also organized around two scalar dimensions which monitor the realis status of the proposition. One dimension tracks a realis scale, contrasting zero-marked with factual-wa'; the other tracks an irrealis scale, contrasting optative-a with future-en. The paradigmatic organization of Kanien'kéha c-typing is not merely morphological: paradigms generate

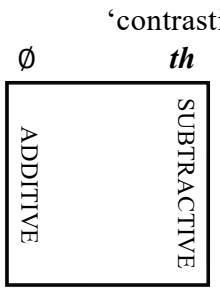
scalar implicatures, with the selection of one form over another regulated by discourse-sensitive felicity conditions. This plays a key role in our analysis.

(4) KANIEN'KÉHA CLAUSE-TYPING DIMENSIONS

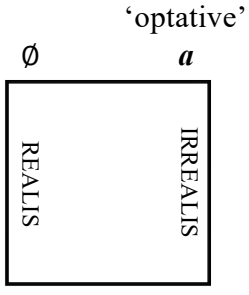
a. *c*



b. C_{FORCE}



c. $C_{FINITENESS}$



In the paradigmatic approach adopted here, zero-marking entails the absence of dedicated morphology; this is significant. Zero-marked clauses—where *c*, C_{FCE}, and C_{FIN} are phonologically null—are restricted to specific aspectual contexts, typically occurring with habitual (5) or stative (6) aspect. The (b) examples show that in the presence of the NEG particle *iah*, duple-*t* (an exponent of C_{FCE}) is obligatory. This establishes that C-typing is polarity-sensitive: we treat AFF polarity first, then NEG polarity.

(5) a. *Ø-R-atá:wen-s.*
C-(M-swim-HAB)
'He swims' (*I-8:1*)

b. *Iah te-ha-atá:wen-s.*
NEG C.DPL-(M-swim-HAB)
'He doesn't swim'

(6) a. *Sak Ø-ra-nòn:we-'s ako-tià:tawi'.*
Sak C- (M- like -INCH) her-dress
'Sak likes her dress' (*I-8:2a*)

b. *Iah Sak te-ha-nòn:we-'s ako-tià:tawi'.*
NEG Sak C.DPL-(M-like-INCH) her-dress
'Sak doesn't like her dress'

2. Affirmative clause-typing

We show in turn that AFF contexts have three layers of C-typing, namely *c*, C_{FCE} and C_{FIN}.

2.1 *c* paradigm

We introduce the *c* paradigm, and argue it is CP-external. While the *c* layer is simple to describe—consisting of {Ø, *tsi*}—its context-of-use is elusive to circumscribe. Complement clauses can be zero-marked (7a) or introduced by *tsi* (7b), with the latter taken to be a complementizer. Semantically, the Kanien'kéha V-complex is a complete proposition *p*, and so corresponds to a syntactic CP (7a'). If so, *tsi* must be CP-external (7b'), as confirmed by the fact that various constituents can intervene between *tsi* and the V-complex. This includes the NEG particle *iah* (8a), as well as DPs, either indefinite (8b) or definite (8c).

(7) a. *Sak Ø-ì:-r-ehre-'* *Ø-ri-nòn:we-'s.*
Sak C-EP-(M-think-PNC) C-(M- like -INCH)
'Sak thinks I like him.' (*I-63:36b*)

a'. [$_{cP}$ Ø [$_{CP}$ *ri-nòn:we-'s*]
… 'I like him'

b. *Sak Ø-ì:-r-ehre-'* ***tsi*** *Ø-ri-nòn:we-'s.*
Sak C-EP-(M-think-PNC) *c* C-(M-like-INCH)
'Sak thinks that I like him.' (*I-63:36a*)

b'. [$_{cP}$ ***tsi*** [$_{CP}$ *ri-nòn:we-'s*]]
… 'that I like him'

(8) a. *Kwah í:ken ki' ní:'i tsi wa'-k-ehná:ten-'*
very much PXL 1.PRN *c* FCT-(1-disappoint-PNC)
'I'm very much disappointed

tsi ***iah*** *te-tewa-teriióh-sere-'.*
c NEG C.DPL-(1IN- fight -go-PNC)
that we won't be fighting.' (*F-84:*58)

b. *Iah te- ho-terièn:tar-e'* *tsi* ***onhka*** *Ø-wa-k-he-kòn:rek-e'.*
NEG C.DPL-(M-know-PNC) *c* someone C-FCT-(1- F-hit -PNC)
'He does not know that I hit anyone.' (*I-54:28b*)

c. *Wa-hi-hró:ri-'* *tsi* ***Sak*** *Ø-ron-wa-nòn:we-'s.*
FCT-(1>3-tell-PNC) *c* Sak C-(M- F- like-INCH)
'I told him that Sak, she likes.' (adapted from *I-13:7a*)

The ubiquity of *tsi*-clauses (Baker 1991:583, *fn*. 4) suggests that *tsi* is a general-purpose C. As such, it often combines with other particles (Kanatawakhon 2009): *ne tsi* in (9a) introduces a root CP; *sók tsi* in (9b) an adjunct CP, and *nek tsi* in (9c) a coordinate CP.[6]

[6] (i) illustrates the *c*Ps in (8): (i-a) shows NEG in Spec,CP, (i-b) shows an indefinite in Spec,CP, and (i-c) shows a definite in Spec,CP. (ii) illustrates the *c*Ps in (9), with particle+*tsi* treated as a complex *c*-head. These complementizer complexes could be analyzed as distinct projections; we leave this to future research.

(i) [$_{cP}$ *c* [$_{CP}$ Spec [$_{C'}$ …]]]
a. [$_{cP}$ *tsi* [$_{CP}$ ***iah*** [$_{C'}$ *te-tewateriióhsere'*]]] '… that we won't be fighting.'
b. [$_{cP}$ *tsi* [$_{CP}$ ***onhka*** [$_{C'}$ *wa-khekòn:reke'*]]] '…that I hit anyone.'
c. [$_{cP}$ *tsi* [$_{CP}$ ***Sak*** [$_{C'}$ *ronwanòn:we's*]]] '… that Sak, she likes.'

(ii) [$_{cP}$ *c* [$_{CP}$ …]]
a. [$_{cP}$ ***ne*** *tsi* [$_{CP}$ *waktsi'a wa'-onkhináhskon'*]] 'My older sister gave him to us.'
b. [$_{cP}$ ***Sók*** *tsi* [$_{CP}$ *ó:nen wa'-akwatiè:nihte'*]] 'When we had enough,…'
c. [$_{cP}$ ***nek*** *tsi* [$_{CP}$ *só:tsi sénha waké:kahs ne niiohontésha*]] '…but I like strawberries more'

(9) a. ***Ne*** *tsi wak-tsi -'a Ø-wa'-on-khi-náhsk-on-'.*
FOC C my-older.sib-DIM C-FCT-(F-1PL-animal-give-PNC)
'My older sister gave him to us.' (*C2-302/308/310:2*)

b. [***Sók*** *tsi ó:nen wa'-akw-at-iè:ni-ht-e'*]
then *c* then FCT-(1PL-SFL-fill-CSV-PNC)
'When we had enough,

sók ki t-ont-a- iakwa-títa-'.
then PXL DU-CIS-FCT-(1PL-get.in-PNC)
we got back on [the tractor platform].' (*C1-295/298/300:14*)

c. *Sewahió:wane Ø-wak-é:ka-hs*
apple C-(1- like.taste-INCH)
'I like apples,

[***nek*** *tsi só:tsi sénha Ø-wak-é:ka-hs ne niiohontésha*].
but *c* too.much more C-(1 like.taste-INCH) FOC strawberry
but I like strawberries more' (*OCG45*)

A question that arises for *tsi*-clauses is whether complement and adjunct CPs are structurally distinct; two pieces of evidence indicate that they are. First, complement CPs support co-reference (10a) as well as bound variable anaphora (10b). The latter diagnoses c-command between a higher operator (*ónhka* 'who') and the pronominal variable it scopes over; this is possible if the *tsi*-clause in (10b) is complement-of-V (Ikeda 1991).

(10) a. *Sók* ***ki*** ***Ka-ronhí:-yo*** *Ø-wa-**h**-ate-'nién:t-en* [*Ø-y- a- **h**o- ié:na-'*].
then PXL ZN-sky-good.STV C-FCT-(M-SFL-try-PNC) C-TRN-OPT-(M:M-grasp-PNC)
'Karonhí:yo tried to hold him; lit. K$_{\{1\}}$ tried for him$_{\{1\}}$ to hold him'
(*C2-306/309/314:29*)

b. ***Ónhka*** *Ø-wa- s-he-hró:ri-'* [*tsi* ***Ø-ie***-*io'ten-hser-í:io*]. (bound reading)
who C-C.RLS-2-F tell-PNC *c* C-F- work -NOM-good
'Who$_{\{1\}}$ did you tell that she$_{\{1\}}$ is a good worker?' (*I-15:9a*)[7]

The complement/adjunct difference is also supported by Condition C, which prohibits a pronominal from c-commanding and binding an R-expression such as a proper name (Chomsky 1986). A pronoun in a root CP cannot co-refer with an R-expression in a complement CP (11a), as the pronoun c-commands the R-expression. But a pronoun can co-refer with an R-expression in an adjunct clause (11b), as the pronoun does not c-command it.

[7] Example (i) below gives schematic structures of (10). In (i), consistent with cross-clausal temporal dependencies (Baker & Travis 1998), complement *c*P is introduced as sister-to-V, and extraposed via adjunction to AspP. For related discussion, see Mithun (2009) and Koenig & Michelson (2015:29*ff.*).
(i) [$_{CP}$*Wahihró:ri-*<~~*cP*~~>*'*] [$_{cP}$*tsi S. ronwanòn:we's*] b.[$_{CP}$*Wahì:nha'ne'*] [$_{cP}$*ne tsi* [*S. raio'tenhserí:io*]
I.told.him$_{\{*1,2\}}$ that S.$_{\{1\}}$ she.likes.him$_{\{1\}}$ I.hired.him$_{\{1,2\}}$ because S.$_{\{1\}}$ he$_{\{1\}}$.is.a.good.worker

(11) a. DISJOINT REFERENCE (adapted from Baker 1991:549, (8), *I-13:7a*)
*Ø-Wa-**h**i-hró:ri-'* [*tsi Sak Ø-**r**on-wa-nòn:we-'s*].
C-C.RLS-(1:3M-tell-PNC) *c* Sak C-(M-F-like.thing-INCH)
'I told him$_{\{*1,2\}}$ that Sak$_{\{1\}}$, she likes'

b. COREFERENCE (adapted from *I-13:7b*)
*Ø-Wa-**h**ì:-nha-'ne-'* [*ne tsi* [*Sak Ø-**ra**-io'ten-hser-í:io*]
C-C.RLS-(1:3M-hire-INCH-PNC) because *c* Sak C-(M-work-NOM-good)
'I hired him$_{\{1,2\}}$ because Sak$_{\{1\}}$, he is a good worker.'

This completes our bird's-eye view of *c*; next is C$_{\text{FORCE}}$.

2.2 C$_{\text{FORCE}}$

C$_{\text{FCE}}$ exponents are a position class at the left margin of the V-complex (Hopkins 1988): in addition to zero-marked C$_{\text{FCE}}$, there is coincidental *sh*, partitive *n*, and contrastive *th*. As discussed above, zero-marked CPs are found with root and complement CPs, as shown in (12). Overt exponents of C$_{\text{FCE}}$ all have double lives, in that they are also lexically conditioned by specific verbs. Coincidental *sh* is selected by predicates of similarity or sameness (13a); when *sh* realizes C$_{\text{FCE}}$, it introduces adjunct *when*-clauses (13b). Partitive *n* is selected by the enumerative verb *-ake-* 'be in the quantity of' (14a); when *n* realizes C$_{\text{FCE}}$, it often introduces relative clauses (14b). Contrastive *th* is selected by predicates of difference (15a); when *th* realizes C$_{\text{FCE}}$, it denotes focal contrast (15b).

(12) a. ***Énska** Ø-wake-náhskw-a-ien.*
one C- (1- animal-JN-lie.STV)
'I have one animal (pet).' (*H*-270:4.63)

b. *Ó:nen Ø-t- yo-atáhsawe **onkwehón:we** Ø-ron-ahtenti-es.*
now C-LOC-(NT-start.STV) original/authentic.people C-(M.PL-leave-HAB)
'It started now that Indians travel' (*I-65:39a*) [8]

(13) a. *Sh-a'-te-teni-'nikonhr-ò:ten'.*
CNC-FCT-(DPL-1&2-mind-type.of)
'We two are of the same mind.'

b. *Io-wísto shi-io-hrhén-'ke sh-a'-k-at-kétsko-'.*
ZC-(cold.STV) CNC-(ZN-be.day-on) CNC-FCT-(1-SRF-raise.up-PNC)
'It was cold when I got up this morning.' (*H-131:3.7*)

[8] XPs to the left of the V-complex are in [Spec,CP]: in (i), this is *énska* ; in (ii), it is *onkwehón:we* 'Indians'.
(i) [$_{\text{CP}}$ ***Énska*** [$_{\text{C'}}$ [$_{\text{C.FCE}}$ Ø]-*wakenáhskwaien*]] (ii) …[$_{\text{CP}}$ ***onkwehón:we*** [$_{\text{C'}}$ [$_{\text{C.FCE}}$ Ø]-*ronahtenties*]]
one (I.have.animal) original.authentic.people (they.travel)

(14) a. *Wisk ni-ka-hwíst-ake.*
five PRT-(NZ-dollar-be.quantity.STV)
'five dollars; lit. 'Five the dollars are so in number' (*OCG100*)

b. *Wak-ateryèn:tare tsi nón:we ní-hs-e' -s*
(1- know.STV) *c* where C.PRT-(2- about-HAB)
'I know where you are.; lit. 'I know the place where you are'

(15) a. *Thi-ká:-te.*
CNT-(NZ-be)
'It is different; 'It is a different one' (*OCG97*)

b. <CONTEXT: extraordinary in some way>
SET OF FOCUS ALTERNATIVES {*STRANGE things are happening…*,
UNUSUAL things are happening…,
GOOD things are happening… }

Shon'k thi-i-á:wen-'s ne ka-ná:t-akon.
strange C.CNT-(NZ-happen-HAB) D (NZ-town-inside)
'[FOC STRANGE] things are happening in town'

Our layered-C analysis predicts C_{FCE} will co-occur with *tsi*, and this is so: *tsi* combines with coincidental *sh* (16a), partitive *n* (16b), and contrastive *th* (16c).

(16) a. *tsi ni-ió:-re-' s- a- hó-hsere-' …*
c PRT-(NZ-be.distance) CNC-FCT-(M:M-chase-PNC)
'While he was chasing him, …' (*F-85:68*)

b. *tánon' tsi na-hi-ate-'nikonhr-ó:ri-'*
and *c* PRT-(M.DU-SRF-mind-operate-PNC)
'…and they had a great time' (trans. adapted from *C1:294/297/299f.:10*)

c. *…tsi iahónhka -- akò:ren th-a-iakotó:kenhse'.*
c nobody else CNT-OPT-(3.be.certain)
…that no one else would know.' (*Mithun 2009, (50)*)

Having established the syntactic distribution of C_{FCE}, we now consider its assertive strength and how it updates the *Common Ground* (*CG*); see Table 1.

Table 1. Assertive scale of affirmative C_{FORCE} paradigm

form	***CP-type***	***update***	***assertive scale***	
∅	root, complement	C.***p***	+2	*upper bound*
coincidental *sh*	temporal adjunct	C.***p*** ∩ *q*	+1	
partitive *n*	relative adjunct	C.***p*** ⊂ *Q*	-1	*lower bound*
contrastive *th*	focus-alternative	C.***p*** *B* ¬*Q*	-2	

The illocutionary act of assertion is standardly defined as adding *p* to the *CG*, with the latter defined as the set of *p*s that both *Speaker* and *Addressee* are committed to (Portner, Pak & Zanuttini 2019). We suggest that Kanien'kéha C-typing tracks the addition/subtraction of

p to/from the *CG*: while additive AFF force enlarges the set of *p*'s in *CG*, subtractive AFF force reduces the set of *p*'s in *CG*. In addition, additive and subtractive C_{FCE} differ in assertive strength, with the upper bound being +2 (realized by zero-marked C_{FCE}) and the lower bound being -2 (realized by contrastive *th*). With this in mind, we illustrate how exponents of C_{FCE} modulate *CG* in a scalar fashion. As in many languages, Kanien'kéha zero-marked clauses are felicitous in contexts where *p* is added to *CG*; we annotate this as C.***p*** and take it to be the upper bound of assertive strength. Coincidental *sh* is likewise additive, but requires that the target *p* be added to *CG* conjointly with a co-temporaneous proposition *q*; we annotate this as C.***p***∩*q*. The contrast between zero-marked and *sh*-marked CPs is consistent with observations concerning how assertive strength maps onto C-type: while root clauses are (by default) strongly assertive, adjunct clauses are weakly assertive (Munaro 2020). Interestingly, Kanien'kéha temporal *when*-adjuncts are marked by C_{FCE} *sh*, while rationale *because*-adjuncts are marked by *c*. This is consistent with the finding that coordinative and rationale clauses are more independent than temporal *when*-clauses (Bache 2015). In terms of assertive strength, this yields the ranking in (17).

(17) RANKING IN TERMS OF ASSERTIVE STRENGTH

MAIN CLAUSE	>	COORDINATIVE CLAUSE	>	*BECAUSE* CLAUSE	>	*WHEN* CLAUSE	>	RELATIVE CLAUSE
		$C_{FCE} \leftrightarrow \emptyset$				$C_{FCE} \leftrightarrow sh$		$C_{FCE} \leftrightarrow n$

Some C-types are subtractive in that they remove *p* from *CG*; this arises if *p* is selected from a superset of propositions *Q*. Arguably, this is lexicalized by partitive *n*, whose prototypical use is to mark relativization (*OCG*:58). We understand a relative clause to be subtractive in relation to a given set of propositions *Q*, and annotate this as C.***p***⊂*Q*. In (14b) above, *Q* is the set of propositions that include 'I am out and about', and the relative clause picks out a specific location yielding 'the place where I am out and about'. The lower bound of assertion is where only one *p* is entertained; for reasons that will become clear when we consider negative polarity, we annotate this as C.*p*Ƀ¬*Q* (*p but-not Q*); this is what focus does (Rooth 1992). Consider the set of focus alternatives for (15b): contrastive *th* eliminates all but one *p*, yielding '[FOC STRANGE] things are happening in town.' Having explored the logic of C_{FCE}, we turn to C_{FIN}.[9]

2.3 CFINITENESS

The C_{FIN} exponents are organized along a REALIS dimension: null C_{FIN} and factual-*wa'* are REALIS; future-*en* and optative-*a* are IRREALIS. The selection of REALIS C_{FIN} is conditioned by grammatical aspect. As discussed above, stative or habitual verbs are zero-marked for C_{FCE} and they are also zero-marked for C_{FIN}: this is exemplified with a root CP in (18a), and a complement CP in (18b). With punctual aspect, the factual REALIS pre-prefix *wa'* is selected: (19a) is a root CP; (19b) is a complement CP. As for IRREALIS clauses, they are marked by *en-* (20) or *a-* (21) and occur with both root and complement CPs.

[9] Partitive *n* has an assertive value of [-1], and contrastive *th* has a value of [-2], but these negative values do not imply negative assertion. Rather, all C_{FCE} exponents are assertive but differ in strength. In our analysis, *n* and *th* are weakly assertive by virtue of their subtractive updates.

(18) a. [DP ***Sewahió:wane***] Ø-Ø-*wak-é:ka-hs*
apple C-C.RLS-(1- like.STV-INCH)
'I like apples'(adapted from OCG45)

b. *Thetén:re' Sak* Ø-*wa-ha-k-hró:ri-'*
yesterday Sak C-FCT-(M-1-tell-PNC)
'Yesterday Sak told me

tsi Tyler (*ó:ia shi-thetén:re'*) [Ø-Ø-*ro-tora-ón-hne'*
c Tyler the CNC-(be.day) C-C.RLS-(M-hunt-STV-PST)
that Tyler had hunted (the other day)' (*B&T1997:262, (65)*)

(19) a. *Sók* [PP ***r-ate-tsèn:ts-hne***]· Ø-*y- a'-shakwa-ia't-enhaw-e'.*
then (M-SFL-cure-place) C-TRN-FCT -(1PL-body-carry-PNC)
'Then we took him to the doctor's' (*C2-307/310/315:34*)

b. *Ki' ohkwá:ri kwah óksa'k t-a-ha-táhsawen-' Ø-wa-ha-non'ké:ra-'...*
this bear very immediately DPL-FCT-(M-start-PNC) C-FCT-(M-nurse-PNC)
'The bear immediately started to nurse …' (F78:8)

(20) a. *Sók Ø-en-hse-nenst-a-rón:ko-'.*
then C-FUT-(2-corn-JN-take.off-PNC)
'Then you will take the corn off the cob.' (*C3-316/319/321:7*)

b. *Wa-hi-hró:ri-' tsi Ø-en-s-k-eks-oharé-nion-'.*
FCT-M-tell-PNC *c* C-FUT-ITR-(1-dish-JN-wash-DIST-PNC)
'I told him that I'm going to rewash dishes.' (trans. adapted from *OCG46*)

(21) a. *A-há:-rahst-e'.*
OPT-(M-draw-PNC)
'He should draw it' (*B&T1997:215, (1c)*)

b. *tánon' Ø-wa'-onkhi-hró:ri-' Ø-a-onsa-shakwa-hsen-a-té:ni-'.*
and C-FCT-(F:1PL- tell-PNC) C-OPT-REP-(1PL-name-JN-change-PNC)
'And she told us that we should change his name.' (*C2-302/308/310:3*)

Table 2 summarizes the distribution of C_{FIN} and introduces the idea that it tracks a realis scale that monitors the speaker's epistemic commitment to *p*.

Table 2. Realis scale of CFINITNESS paradigm

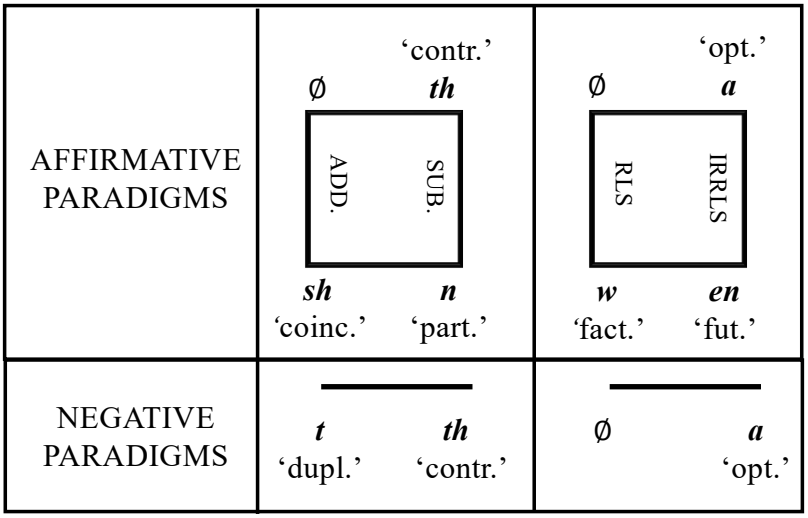
form	*syn*	*update*	*speaker's commitment to p*		*realis scale*	
∅	CP	C.p^{w}	∃*w*	***un**committed to **p** in **an** actual w*	+2	*upper bound*
Factual *wa'*	CP	C.p^{w}	ι *w*	*committed to **p** in **the** actual w*	+1	
Optative *a*	CP	C.$p^{w'}$	∃*w'*	***un**committed to **p** in **a** possible w*	-1	*lower bound*
Future *en*	CP	C.$p^{w'}$	ι *w'*	*committed to **p** in **the** possible w*	-2	

When the speaker is committed to *p* then: (i) if *p* holds in the actual world (*ιw*), then REALIS (*w*)*a'* is selected; (ii) if *p* is realizable in the immediately accessible world (*ιw'*), then IRREALIS (definite) future-*en* is selected.[10] When the speaker is uncommitted to *p* then: (i) if *p* holds in an actual world (∃*w*), then zero-marked REALIS is selected; (ii) if *p* is realizable in an immediately accessible world (∃*w'*), then IRREALIS optative-*a* is selected. If CFIN tracks epistemic commitment this predicts that, in the presence of NEG, only a *p* with associated a weak epistemic commitment—namely ∅-REALIS and *a*-IRREALIS—will be felicitous. This is what we look at next.

3. Negative clause-typing

The 4-way contrast found with AFF collapses to a 2-way contrast with NEG; see (22).

(22) KANIEN'KÉHA POLARITY-SENSITIVE CLAUSE-TYPING



With CFCE, NEG polarity conditions the appearance of duple-*t* or contrastive-*th*, which we treat as polarity-sensitive conjunctive operators. We propose that duple-*t* is a bifocal *and-not* operator (*&¬*), and contrastive *th* is a unifocal *but-not* operator (*ʙ¬*). Consistent with

[10] Future-*en* has a varied nomenclature: 'certain future' (Brinklow 2017:27), 'definite future' (Baker & Travis 1997), or 'intentive' (Kanatawakhon 2005).

the fact that conjunction is often category-neutral and type-neutral (Partee & Rooth 1983/2002), these operators restrict constants of any type, including entities (type *e*), predicates (type <*e*,*t*>) and propositions (type *t*). As summarized in Table 3, the genius of Kanien'kéha lies in how it harnesses the implicatures that arise with *&¬* (duple-*t*) versus *Ƀ¬* (contrastive *th*).

Table 3. Additive versus subtractive conjunction

	bifocal and-not (*&¬*)			*unifocal but-not* (*Ƀ¬*)	
scope	***duple-t***	***construal***		***contrastive-th***	***construal***
• *individual*	x & ¬y	'two-ish' |2|		x Ƀ ¬y	'one-ish' |1|
• *predicate*	e_1 & ¬e_2	change-of-state		e_1 Ƀ ¬e_2	dissimilarity
• *proposition*	p & ¬q	additive NEG		p Ƀ ¬q	subtractive NEG

The examples in (23) illustrate the multi-functionality of duple-*t*:

(23) a. *Te-te-ni-hna'neta-s.*
DPL$_e$-(DPL$_x$-DU-duplicate-HAB)
'We two$_{(you\&me)}$ are duplicating it'

Te-te-wa-hna'neta-s.
DPL$_e$-(DPL$_x$-PL-duplicate-HAB)
'We all$_{(you\&us)}$ are duplicating it'

b. *Wa'-t-ha-tí:-ien.*
FCT-DPL$_e$-(M-PL-put.down)
'They gambled.'

Wa-ha-tí:-ien.
FCT-PL-(M-PL-put.down)
'They put it down'

c. *Iah te-ke-khón:ni-s.*
NEG DPL$_p$-(1-cook-HAB)
'I do not cook'

Ke-khón:ni-s.
(1-cook-HAB)
'I cook'

Following Brinklow et al. (2020), we treat duple-*t* as a two-ish operator. When it scopes over an entity this is construed as a cardinality of |2|, as reflected in by its interaction with semantically dual forms (23a). We have deliberately selected a V-base (*-hna'neta-* 'duplicate') that lexically conditions duple-*t*, as this confirms that duple stacking is possible; we annotate this as DPL$_e$ combining with DPL$_x$. This leads to (23b), where duple-*t* denotes a two-ish event, implicating a CHANGE-OF-STATE (e_1&¬e_2).[11] And in (23c), duple-*t* takes propositional scope, implicating a change in truth-value (p&¬q); this usage is polarity-sensitive, and emerges in the context of NEG. Kanien'kéha also exploits monofocal contrastive *th*; the examples in (24) illustrate its multi-functionality:

(24) a. *Thi-ion-t-awè:tonte ne ennitskwá:ra.*
CNT$_x$-(NZ-REFL-be.shaky) FOC chair
'The chair is rickety' ['This chair, and no other, is rickety']

**Ion-t-awè:tonte ne ennitskwá:ra.*
(NZ-REFL-be.rickety) FOC chair

b. *Thi-ká:-te.*
CNT$_e$-(NZ-be)
'It is different/a different one' (*OCG97*)

[11] Duple-*t* combines with entities, locations, changes of state, but not dynamic events. The latter combine with iterative *s*. This blocking effect is not well understood.

c. *Iah th-a'-te-wak-atonhwentsi-ó:ni* — *Te-wak-atonhwentsi-ó:ni.*
NEG CNT$_p$-FCT-DPL-(1-want-STV) — DPL$_e$-(1-want-STV)
'I do not want (it)' (*OCG98*) — 'I want (it)

If contrastive *th* scopes over an entity, it denotes a focus construal (24a), equivalent to picking out a set whose cardinality is |1|. If it scopes over a predicate, as in (24b), it "*is used to express the idea of contrast or difference*" (*OCG:*97). When contrastive *th* scopes over *p*, as in (24c), this arises when the verb lexically selects for duple-*t*. We understand this as a blocking effect: lexically conditioned duple-*t* cannot also function as a propositional restrictor, and contrastive *th* is recruited instead. The idea that Kanien'kéha distinguishes additive and subtractive conjunction has consequences that go well beyond C-typing, but our present goal is modest: to establish language-internal criteria for why duple-*t* and contrastive *th* are polarity-sensitive. With this in place, consider Table 4, which summarizes the syntactic distribution of polarity-sensitive C$_{FCE}$. Working through the syntactic contexts that condition the selection of C$_{FCE}$ with AFF polarity, we see that with NEG polarity a different set of allomorphs is selected, namely {*t*, *th*}.

Table 4. Polarity-sensitive C$_{FORCE}$

	AFF *polarity*			**NEG *polarity***	
CP-type	***update***	***form***		***update***	***form***
root, complement	C.***p***	↔ ∅		C.&¬***p***	↔ *t*
temporal adjunct	C.***p***∩*q*	↔ *sh*			
relative adjunct	C.***p***⊂*Q*	↔ *n*			
focus-alternative	C.***p***$_B$¬*q*	↔ *th*		C.$_B$¬***p***	↔ *th*

In contexts where C$_{FCE}$ would be zero-marked with AFF polarity, the counterpart NEG polarity selects duple-*t* (25).[12] With overt C$_{FCE}$, duple-*t* substitutes for coincidental *sh* (26), partitive *n* (27), and contrastive *th* (28). For this reason, we treat polarity-sensitive duple-*t* as an exponent of C$_{FCE}$.

[12] When NEG *iah* occurs with *tsi*, the order is [*tsi iah*] indicating NEG is in Spec,CP$_{FCE}$:

(i) a. *Nék tsi* ***iah*** *ki te- sha-kwa-rihw-á:wi-s.*
but *c* NEG PXL C.DPL-(M- 1PL- matter-give-HAB)
'But we do not allow him.' (*C2-305/309/313:21*)

b. *Kwah í:ken ki' ní:'i tsi wa'-k-ehná:ten-' tsi* ***iah*** *te- te-wa-teriióh-sere-'.*
very much PXL 1.PRN *c* FCT-(1-disappoint-PNC) *c* NEG C.DPL-(DU-PL-fight-go-PNC)
'I'm very much disappointed that we won't be fighting.' (*F-84:*58)

c. *tsi ni-ió:-re tsi* ***iah*** *skén:nen té:ken te-ha-nonhtón-nion.*
c PRT-(NZ-be.distance) *c* NEG peace DPL.exist C.DPL-(M-thinking-DIST)
'But his thoughts were not at peace; he was dissatisfied.' (*C2-306/309/313f.:26;* trans. adapted)

(25) a. *Ø-Ionkwá:yen ne ka-nekó:t-a.*
C-(1PL-lie-STV) FOC NZ-ladder-NS
'We have a ladder.'

b. ***Iah** te-ionkwá:-ien ne ka-nekó:t-a.*
NEG C-(1PL-lie-STV) FOC NZ-ladder-NS
'We don't have a ladder.' (*C1-295/297/300:12*)

(26) a. *Tiohtyà:ke sha'-k-e'-skwe…*
Montreal CNC-(1S-about-HAB.PST)
'when I was in Montreal…'

b. *Tiohtià:ke **iah** te-k-e'-skwe…*
Montreal NEG C-(1S-about-HAB.PST)
'when I wasn't in Montreal…'

(27) a. *wak-ateryèn:tar-e tsi nón:we ní-hs-e'-s.*
1- know-ASP *c* where PRT-(2-about-HAB)
'I know where you are.' lit. 'I know the place where you are'

b. *wak-ateryèn:tar-e tsi nón:we **iah** te-hs-e'-s.*
1- know-ASP *c* where NEG C-(2-about-HAB)
'I know where you're not.' lit. 'I know the place where you are not'

(28) a. *Shon'k th-y-á:wen-'s ne ka-ná:t-akon.*
strange CNT-(NZ-happen-HAB) FOC NZ-town-inside
'Strange things are happening in town'

b. ***Iah** shon'k te-y-á:wen-'s ne ka-ná:t-akon.*
NEG strange C-(NZ-happen-HAB) FOC NZ-town-inside
'No strange things are happening in town'

Polarity-sensitive C_{FCE} can be treated as a form of agreement, where a polarity operator in Spec,CP probes for an agreeing C_{FCE}, as in (29), where AFF agrees with AFF (29a), and NEG agrees with NEG (29b).

(29) a. [CP ***OP***$_{\underline{\text{AFF}}}$ [C' [C.FCE ***Ø*** AFF] [AspP …]]]
[CP ***OP***$_{\underline{\text{AFF}}}$ [C' [C.FCE ***sh*** AFF.CNC] [AspP …]]]
[CP ***OP***$_{\underline{\text{AFF}}}$ [C' [C.FCE ***n*** AFF.PRT] [AspP …]]]
[CP ***OP***$_{\underline{\text{AFF}}}$ [C' [C.FCE ***th*** AFF.*X* ƀ*NEG.Y*] [AspP …]]]

b. [CP ***iah***$_{\underline{\text{NEG}}}$ [C' [C.FCE ***t*** *p*&NEG.*q*] [AspP…]]]
[CP ***iah***$_{\underline{\text{NEG}}}$ [C' [C.FCE ***th*** AFF.*X* ƀ*NEG.Y*] [AspP…]]]

With AFF polarity, a phonologically null operator (Gleitman 1966, Laka 1990) in Spec,CP is compatible with any one of four exponents {Ø, *sh*, *n*, *th*}, (29a). A subset of these, namely {Ø, *sh*, *n*} are restricted to AFF contexts, indicating they are specified for AFF polarity. As for contrastive *th*, it is the only C_{FCE} prefix compatible with AFF and NEG polarity. (More on this below.) In (29b), with NEG polarity, a NEG operator occupies Spec,CP (*iah*) and selects for a polarity-compatible C_{FCE}. This accounts for why $C_{FCE.AFF}$ exponents can't co-

occur with NEG. The compatibility of duple-*t* with $C_{FCE.NEG}$ follows from its status as an *and-not* operator. Note that our analysis (correctly) predicts that polarity-sensitive C_{FCE} (realized by *and-not* duple-*t*) will select for polarity-compatible C_{FIN}. A hallmark property of NEG is its interaction with polarity-sensitive indefinites (Tovena 2020). This is relevant for C_{FIN}: as discussed above, earlier descriptions characterize optative-*a* as an indefinite future (Lounsbury 1949:71), and Baker & Travis (1997; B&T) reframe this insight into an (in)definiteness account of IRREALIS. Their analysis differs from ours, as they do not consider zero-marked clauses that lack an overt phonological exponent of C_{FIN}. Once this step is taken, an (in)definiteness analysis can account for the (IR)REALIS paradigm as a whole, as well as its interaction with NEG. Consider Table 5, which shows how a speaker's epistemic commitment to *p* with the world value (POSSIBLE world *w'* versus ACTUAL utterance world *w*) cross-classifies with world (in)definiteness, where an indefinite world is indicated by the existential operator (∃), and a definite world by the iota operator (ι).

Table 5. Interaction of negation with realis scale of $C_{FINITENESS}$ paradigm

form	***neg?***	***update***	***speaker's commitment to p***		***realis scale***	
Ø	Yes	C.$\boldsymbol{p}^{w}$	∃*w*	***un**committed to **p** in **an** actual world*	+2	*upper bound*
Factual-*wa'*	No	C.$\boldsymbol{p}^{w}$	ι *w*	*committed to **p** in **the** actual world*	+1	
Optative-*a*	Yes	C.$\boldsymbol{p}^{w'}$	∃*w'*	***un**committed to **p** in **a** possible world*	-1	*lower bound*
Future-*en*	No	C.$\boldsymbol{p}^{w'}$	ι *w'*	*committed to **p** in **the** possible world*	-2	

The (in)definiteness contrast postulated for entities can also apply to worlds (Baker & Travis 1997): an indefinite world is unknown (to speaker and hearer); a definite world is familiar/unique (to speaker and hearer). B&T argue that optative-*a* can be viewed as an indefinite IRREALIS.[13] We take their proposal a step further and suggest that REALIS can likewise be indefinite (zero-marking) or definite (factual-*wa'*). This (in)definiteness account (correctly) predicts that NEG will be compatible with INDEFINITE C_{FIN} (Ø-REALIS, *a*-IRREALIS), but incompatible with DEFINITE C_{FIN} (*wa*-REALIS, *en*-IRREALIS). Example (30) shows that AFF polarity is associated with a four-way C_{FIN} contrast, with two values for REALIS (30a-b), and two values for IRREALIS (30c-d).

(30) a. Ø-Ø- *Ion- 'ther-a-hní:non-s.* 'She buys baskets'
b. Ø-*Wa'*- *on- 'ther-a-hní:non-'.* 'She bought a basket'
c. Ø-*A*- *yon- 'ther-a-hní:non-'.* 'She might/should buy a basket'
d. Ø-*En*- *yon- 'ther-a-hní:non-'.* 'She'll buy a basket'
C-C.FIN (FEM- basket-JN-buy -ASP)

Example (31) shows that NEG polarity selects for an agreeing C_{FCE}, which in turn selects (indefinite) C_{FIN}, thereby severely constraining C_{FCE}-C_{FIN} stacking: duple-*t* can combine

[13] Baker & Travis (1997:249) treat future-*en* as an allomorph of optative-*a*. Our analysis treats them as contrasting in definiteness: optative-*a* is an indefinite IRREALIS, future-*en* is a definite IRREALIS.

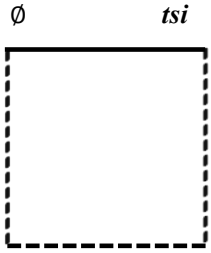
with INDEFINITE Ø-REALIS (31a); contrastive *th* can combine with INDEFINITE *a*-IRREALIS (31c).

(31) a. ***Iah*** *te-* **Ø-** *ion-'ther-a-hní:non-s.* 'She doesn't buy baskets'
b.* ***Iah*** *t-* *a'-* *yon-'ther-a-hní:non-'.* ['She didn't buy a basket']
c. ***Iah*** *th-a-* *yon-'ther-a-hní:non-'.* 'She might/should/will not buy a basket'
d.* ***Iah*** *th-en-* *yon-'ther-a-hní:non-'.* ['She won't buy a basket']
NEG C.DPL-C.FIN (FEM-basket-JN-buy-ASP)

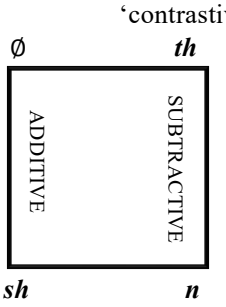
4. Implications

Our analysis generates two novel findings. First, we capture the stacking of *c*, C_{FCE} and C_{FIN}, something which previous analyses fall silent on. Second, we detect the scalar logic of C_{FCE} and C_{FIN} by using paradigm gaps (Sims 2009) and morpho-semantic suppletion (Bobaljik 2015), leading us to posit the paradigms in (32b-c).

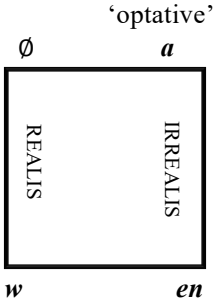
(32) a. *c*



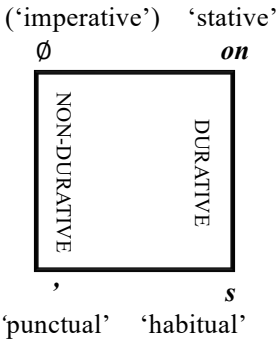
b. C_{FORCE}



c. $C_{FINITENESS}$



d. Aspect



C_{FCE} contrasts ADDITIVE versus SUBTRACTIVE illocutionary force (32b). C_{FIN} contrasts REALIS versus IRREALIS propositions (32c). Both C_{FCE} and C_{FIN} use a scalar logic (Bowler & Gluckman 2021); an open question is whether a scalar logic is also found with *c* (32a) and Aspect (32d). Investigation of *c* is in its preliminary stages, so we refrain from offering premature conclusions. As for Aspect, in our analysis, AspP is selected by C_{FIN}, capturing the fact that that C_{FIN} (IR)REALIS prefixes select for aspectual suffixes. There is abundant discussion and analysis of Kanien'kéha aspect, for which there are several competing views, which we do not rehearse here.[14] Most closely aligned with our approach is that of Hopkins (1988:161), who proposes that the conjugation class of a verb "*can be predicted* […] *on the basis of the phonological shape of the verb base*". She posits a four-way partition organized around two aspectual dimensions: an IMPERATIVE/PUNCTUAL dimension and a HABITUAL/STATIVE dimension. On a speculative note, we suggest that these dimensions are not only phonological, but also semantic, and that they track (non)-durativity (Smith 1997), as in (35d). We are currently exploring the implications of such a partition.

[14] For Beatty (1972), each V-stem is listed in the lexicon; for Lounsbury (1953) STATIVE is basic; for Michelson (1975) HABITUAL is basic.

References

Bache, Carl 2015. The narrative 'when' enigma. In *The Book Out of Bounds*, eds C.S-Jakobsen, O, Simonsen & T. Pettitt, 9-22. Odense: Institut for Kulturvidenskaber Syddansk Universitet.

Baker, Mark C. 1988. *Noun Incorporation*. Chicago: Chicago University Press.

Baker, Mark C. 1991. On some subject object non-object asymmetries in Mohawk. *NLLT* 9:537-591.

Baker, Mark C. & Lisa Travis. 1997. Modal as verbal definiteness in a 'tenseless' language. *NLS* 5: 43-83.

Baker, Mark C. & Lisa Travis. 1998. Events, times & Mohawk verbal inflection. *CJL/RCL* 43(2):149-203.

Barrie, Michael. 2003. Pronominal agreement on Iroquoian nouns & verbs. *TWPiL Linguistics* 21:1-13.

Barrie, Michael. 2011. Dynamic antisymmetry and the syntax of noun incorporation. Dordrecht: Springer.

Barrie, Michael & Éric Mathieu. 2016. Noun incorporation and phrasal movement. *NLLT* 34:1–51.

Beatty, John Joseph. 1972. *Mohawk Morphology*. PhD Dissertation. City University of New York.

Benincà, Paola. (1996). La struttura della frase esclamativa alla luce del dialetto padovano. In *Italiano e dialetti nel tempo*, ed. P. Benincà, G. Cinque, T. De Mauro & N. Vincent. Roma: Bulzoni.

Bobaljik, Jonathan David. 2015. Suppletion: some theoretical implications. *Annual Review of Applied Linguistics* 1: 1-18.

Bonvillain, Nancy. 1981. Locative semantics in Mohawk. *IJAL* 47(1): 58-65.

Bonvillain, Nancy 1989. Noun incorporation & metaphor. *Anthropological Linguistics* 31:173-194.

Bonvillain, Nancy & Beatrice Francis. 1980. The Bear & the Fox. In *IJAL Native American Text Series* (4), eds. M. A. Mithun & H. Woodbury: 77-95.

Bowler Margit & John Gluckman. 2021. Gradability across grammatical domains. *Linguistic Variation* 21(2): 281-312.

Brinklow, Nathan. 2017. Beginning Mohawk Language and Culture I. Ms. Kingston, Queen's U.

Brinklow, Nathan, Monique Dufresne, Greg Lessard & Rose-Marie Déchaine. 2020. La morphosyntaxe de personne, de nombre et de genre dans l'accord du Kanien'kéha. *Actes du Congrès de l'ACL 2020/2020 CLA conference proceedings*.

Chamorro, Adriana. 1992. *On Mohawk Word Order*. MA thesis, McGill University.

Chandlee, Jane. 2017. Computational locality in morphological maps. *Morphology* 27:599-641.

Chomsky, Noam. 1986. Knowledge of language. New York: Praeger.

DeCaire, Ryan, Alana Johns & Ivona Kučerová. 2017. On optionality in Mohawk noun incorporation. *TWPiL* 39.

Foster, Michael K. 1985. The language of tense, mood & aspect in Northern Iroquoian descriptions. *IJAL* 51(4):403-405.

Foster, Michael K. 1986. Updating the terminology of tense, mood, and aspect in Northern Iroquoian descriptions. *IJAL*, 52(1):65-72.

Gleitman, L. 1969. Coordinating conjunctions in English. In *Modern Studies in English*, eds. D. Reibel & S. Schane, 80-112. Englewood Cliffs: Prentice-Hall.

Green, Jeremy 2018. Kanyen'kéha: la langue mohawk. In *L'encyclopédie camadienne.* https://www.thecanadianencyclopedia.ca/fr/article/kanyenkeha-langue-mohawk

Hopkins, Alice W. 1988. *Topics in Mohawk Grammar*. PhD Dissertation, City University of New-York.

Ikeda, Edward. 1991. *Sentential complementation in Mohawk.* M.A thesis, McGill University.

Koenig, Jean-Pierre, Karin Michelson. 2015. Invariance in argument realization. *Language* 91(1):1-47.

Laka, Itziar. 1990. *Negation in syntax*. PhD dissertation, MIT.

Lounsbury, Floyd. 1949. *Iroquoian morphology*. PhD dissertation, Yale University.

Lounsbury, Floyd. 1953. *Oneida verb morphology*. New Haven: Yale University Press.

Kanatawakhon, David. 2009. *Particles & particle phrases* (Compiled & produced as an academic aid to learning the Mohawk language in an Intensive Language Program.) Centre for Research & Teaching of Canadian Native Languages, University of Western Ontario.

Kanatawakhon, David. 2005. An analysis of Mohawk descriptive roots as they occur with the various prefixes, infixes & suffixes that can be used to modify their descriptions. Centre for Research & Teaching of Canadian Native Languages, University of Western Ontario.

Michelson, Karin. 1975. *Mohawk aspect suffixes*. M.A. thesis, McGill University.

Miller, Taylor Lampton. 2018. *The phonology-syntax interface & polysynthesis*. PhD dissertation, U Delaware.

Mithun, Marianne. 1987. Is basic word order universal? In *Coherence and Grounding in Discourse*, ed. R.S. Tomlin, 281–328. Amsterdam: Benjamins.

Mithun, Marianne. 1989. The acquisition of polysynthesis. *Journal of Child Language* 16:285-312
Mithun, Marianne. 2009. Threads in the tapestry of syntax. *CLS* 42.2: 213-238.
Munaro, Nicola. 2020. Towards a hierarchy of clause types. In *Mapping the left periphery*, eds. P. Benincà & N. Munaro, 125–162. Oxford: Oxford University Press.
Ontario Ministry of Education 2011. *Native Languages: A support document for the teaching of language patterns (Oneida, Cayuga & Mohawk)*. The Ontario Curriculum Guide Grades 1 to 12, Resource Guide. (cited as *OCG*, www.ontario.ca/edu)
Partee, Barbara & Mats Rooth 1983/2002. Generalized conjunction & type ambiguity. In *Formal Semantics: Essential Readings*, ed. P. Portner & B. Partee, 334-356. Oxford: Blackwell.
Portner, Paul, Miok Pak & Raffaella Zanuttini. 2019. The speaker-addressee relation at the syntax-semantics interface. *Language* 95(1):1–36.
Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of Grammar: Handbook of Generative Syntax*, ed. L. Haegeman, 281-337. Dordrecht: Kluwer.
Rooth, Mats 1992. A theory of focus interpretation. *NLS* 1(1):75-116.
Sims, Andrea. 2009. Why defective paradigms are, and aren't, the result of competing morphological patterns. *CLS* 43(2): 267-28.
Smith, Carlota. 1997. *The Parameter of Aspect*. Springer: Dordrecht.
Tovena, Lucia M. 2020. Negative Polarity Items. In *The Oxford Handbook of Negation*, eds. V. Déprez & M.T. Espinal, 391-406. Oxford: Oxford University Press.