

# Phase Sensitive Morphology and Dependent Case: Optional Nominative-Accusative in Creek (Mvskoke) \*

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## Abstract

Modern theories of case are able to model case systems in a wide range of languages, yet they only implicitly address optional case. Creek (mus, Muskogean) is a language with largely optional case marking which makes a binary distinction between subject and nonsubject, marking all nonsubjects (arguments and adjuncts) with accusative case. A predominantly head-marking language, Creek nevertheless has morphological case on nouns. This typologically unusual case system co-exists with an Active agreement system, making this language of broad interest. Baker & Bobaljik discuss the typological predictions of Inherent Case Theory (Woolford 2006; Legate 2012) versus Dependent Case Theory (Marantz 1991; Baker 2015), and argue that Inherent case makes wrong predictions about Active languages. Based on original fieldwork and corpus data, this paper provides a natural treatment of the Creek system in Dependent Case Theory. It is argued that case is not optional *per se*, but that structure of

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both the DP and the phase effect the phonological realization of case features. This system makes use post-syntactic Vocabulary Insertion in a Distributed Morphology framework (Halle & Marantz; Harley & Noyer), and explains the co-existence of an Active agreement system with the Nominative-Accusative case system in a typologically natural way.

**Keywords** Syntax, Dependent Case, Distributed Morphology, Phases, Fieldwork, Muskogean languages

## 1 Introduction

Case theories come in three main varieties. Under a Chomskyan head-licensing approach, case is transferred to the noun under an AGREE relation with a c-commanding functional head (Chomsky b,a, a.o.). More extreme versions of this reduce case to the phonological realization of phi-features on the agreed-with DP (Deal). In Inherent Case Theory (ICT), case (especially Ergative and Dative) are assigned along with theta-roles to the nominal (Woolford; Legate c, a.o.). Finally, in Dependent Case Theory (DCT), case is dissociated from agreement and theta-roles and is assigned to a nominal by virtue of it being in a certain syntactic configuration (Marantz; Baker a, a.o.). Baker & Bobaljik discuss the typological predictions of each approach as applied to Ergative case systems. Specifically, they argue that DCT correctly predicts that there should not exist a dependent-marking language with an active-stative case pattern where all and only agents receive Ergative case. The Muskogean languages<sup>1</sup>, as head-marking languages with an active-stative agreement system as well as case in the nominal domain, are ideal languages to test the predictions of these theories. Both the Head-Licensing approach and the ICT predict that nominal case in the Muskogean languages should parallel the active-stative agreement system. Instead, they have a Nominative-Accusative case system.

In this paper, I provide a syntactic account of nominal case endings in Creek (Mvskoke) and argue that Dependent Case is best able to capture the data. In Creek there are two overt morphological cases that appear on nouns - subject case /-t/ and nonsubject case /-n/, but these morphemes

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<sup>1</sup>The Muskogean languages - Choctaw, Chickasaw, Creek, Seminole, Alabama, Koasati, and Mikasuki - are indigenous languages of the Southeastern United States and all are in various stages of endangerment.

are only optionally pronounced. All combinations of case-marking and non-case-marking on the nominals in (1) are acceptable.<sup>23</sup>

- (1) Efv(**t**)      pose lvstē(**n**)                      assēcis.  
 ifá(-**t**)      pó:si lást-i:(-**n**)                      á:ssi:c-éy-s  
 dog(-**SUBJ**) cat    black-DUR(-**NSUBJ**) chase.IMPF-P1-IND  
 ‘The dog was chasing the black cat.’

Additionally, while subject case exclusively marks the argument functioning as the surface subject, nonsubject case marks any other nominal in a clause. In (2) /-n/ appears on three nonsubject nominals other than the direct object: a temporal adverb (*mucv nettvn* ‘today’), a location (*vncukon* ‘my house’), and a benefactee (*ecken* ‘her mother’).

- (2) Mucv nettv**n**      Milet      vncukon                      vpvtvk**v**n      ecken  
 Móca nittá-**n**      Méyli-t      an-có:ko-**n**                      apátaká-**n**      ícki-**n**  
 this    day-**NSUBJ** Mary-SUBJ 1.SG.POSS-house-**NSUBJ** bread-**NSUBJ** her.mother-**NSUBJ**  
**enhayes.**  
**in**-ha:y-ís  
**3.DAT**-make.IMPF-IND  
 ‘Today, Mary is making traditional bread at my house for her mother.’

The optionality of nominal case markers and the indiscriminate nature of nonsubject marking are two puzzles that I develop an account for in this paper.

To address the first puzzle, I argue that Creek case is not truly optional; rather case features are assigned to nominals in the syntax, but the insertion of overt case morphemes is strictly constrained by syntactic structure. I show that case assigned to the second of two internal arguments is overtly realized. Additionally, I show that case on noun phrases of a certain size is also overtly realized.

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<sup>2</sup>Creek is spoken in Oklahoma by the Muscogee (Creek) Nation and the Seminole Nation as well as in Florida by the Seminole Tribe. The first line of each example is given in the practical Creek orthography. The second line is in a phonemic transcription in keeping with the conventions of Mary R. Haas and Jack Martin. When no reference is given for examples, data comes from my own fieldnotes and is in the Muskogee dialect. I depart from Martin’s glossing conventions in order to be more transparent where possible. The abbreviations I use are given in Appendix A.

<sup>3</sup>This example is based on one appearing in Martin (2011: 22). This sentence was independently elicited in my own fieldwork.

I argue that both of these restrictions are most naturally accounted for in DCT though they are not tied to it. To work out this analysis, I adopt a Distributed Morphology framework with post-syntactic vocabulary insertion (Halle & Marantz; Harley & Noyer). I propose that case features are spelled out differently depending on the phase in which they are assigned by vocabulary entries keyed to that phase. In this approach, case is not optional *per se*. Rather there are two different conditions which require overt realization of case: assignment in the *vP*-phase or size of the DP. This approach analyzes bare NP's as ambiguous as to whether they project additional structure, predicting an interpretational difference between nouns with and without case.

The second puzzle - the indiscriminate nature of nonsubject case - falls out as a result of the Dependent Case approach I argue for. It is shown that Creek applied and non-central arguments are subject to the same restrictions on overt case-marking as direct arguments of the verb. In DCT, case assignment is sensitive only to the category of a nominals, the c-command relations between them, and the phase. The grammatical function of the noun is less important. As such Dependent Case captures this pattern where competing theories fail.

This paper is structured as follows. Section 2 addresses the typological interest of examining case in Creek, highlighting differences between the verbal affixes and case in the nominal domain. Section 3 discusses the puzzle that optional case poses to current theories. I then present novel data from fieldwork showing that optionality of Creek case morphemes is restricted structurally along two lines - case is obligatory on the second of two internal arguments and on DP's larger than (in)definites. I then propose a Dependent Case analysis in which different vocabulary items are accessed at each phase such that case assigned in the *vP*-domain is always overtly pronounced and case assigned at the CP-domain is pronounced on DP's bearing a deictic feature. Section 4 extends the discussion to non-central arguments and sentences with *pro*-dropped arguments. Using this evidence, I consider and reject two alternative analyses. Finally, section 5 concludes.

## 2 Nominative-Accusative Case in an Active Language

As discussed above, the appearance of case endings on nouns in Creek is interesting in and of itself given other facts about the language. The Muskogean languages, like most languages of native North America, are agglutinative and head-marking. As discussed by Nichols, whereas dependent-marking languages have morphological case on nouns, head-marking languages have verbal affixes instead. Although Creek is not extremely agglutinative, marking on nominals is rather restricted. Possible nominal suffixes other than case include: plural on human and group nouns, a nominal diminutive, several nominalizing endings, and a nominal tense (Hardy b; Martin c). As has been noted for Chickasaw and Choctaw, Muskogean languages lack prepositions, postpositions, or case marking that distinguishes “syntactic obliques” (or adjuncts) from direct arguments (Munro: 286). Instead, agreement and applicative morphemes on the verb play the role, typically associated with case, of indicating the thematic role of the nominal. Indeed several analyses treat verbal affixes such as these as the reflexes of case (see e.g. Tyler 2017 for Choctaw). Thus by having overt morphological case on nouns in addition to verbal affixes, the Muskogean languages stand apart from typical head-marking languages.

### 2.1 Verbal Affixes

Muskogean languages display an active-stative split, and cross-referencing verbal morphology distinguishes between agents and patients. One series of morphemes marks local person agents (volitional or agentive subjects of active transitive and intransitive verbs), and a second series of morphemes marks local person patients (non-volitional or non-agentive subjects of stative intransitives and objects of transitives). A third series cross-references dative or benefactive arguments.<sup>4</sup> These are listed in (3).

#### (3) *Cross-Referencing Morphology in Creek*

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<sup>4</sup>I follow (Munro & Gordon, a.o.) in analyzing these as patient prefixes plus the applicative ‘im-’ prefix

|   | Agent |        | Patient |     | Dative |      |
|---|-------|--------|---------|-----|--------|------|
|   | SG    | PL     | SG      | PL  | SG     | PL   |
| 1 | -ey-  | -iy-   | ca-     | po- | am-    | pom- |
| 2 | -ick- | -a:ck- |         | ci- |        | cim- |
| 3 |       | ∅      |         | ∅   |        | im-  |

This active-stative agreement system tracks the theta-role of the arguments (though there are some exceptions, see Martin (b: chap. 5)). Case theories like Head-Licensed case and ICT link case to agreement and theta-roles, predicting that nominal case should also follow an active-stative alignment in Creek. This makes the Nominative-Accusative alignment of nominal case marking even more surprising.

Although we expect to see Ergative marking for subjects, subject case is best categorized as Nominative. Subject case marks all (and only) surface subjects regardless of theta-role or how they agree on the verb. In the examples below /-t/ marks agent, patient, and experiencer subjects.<sup>5</sup>

- (4) a. Efv(**t**)        wohkis.  
          ifá(-**t**)        wó:hk-ey-s  
          dog(-**SUBJ**) bark.SG.IMPV-P1-IND  
          ‘The dog was barking.’

- b. Vnet    cvnökkēs.  
          aní-**t**    ca-nókk-i:-s  
          I-SUBJ 1.SG.PAT-sick-DUR-IND  
          ‘I(focused) am sick.’

(Martin c: 27)

- c. Vnhesse(**t**)        enmvttēs.  
          anhíssi(-**t**)        in-mátt-i:-s  
          my.friend(-**SUBJ**) 3.DAT-wrong-DUR-IND  
          ‘My friend is wrong.’

(Martin c: 186)

<sup>5</sup>(4a) is based on one appearing in Martin (2011: 21). This sentence was independently elicited in my own field-work.

In (4a) *efvt* ‘dog’ is the subject of an unergative verb which takes agentive agreement (3rd person marking is null); in (4b) the subject is cross-referenced by the patient prefix; and in (4c) the subject is cross-referenced by a dative prefix. If case were linked to agreement or to theta-roles, we would expect to see a difference in nominal case between the subjects in (4). Instead we find that the nominal case alignment is at odds with the agreement system.

A number of verbal prefixes distinguish between different types of obliques in a way that is similar to case in Finnish or prepositions in English. There is a long tradition in Muskogean literature of understanding these prefixes as applicative morphemes (or incorporated prepositions) that introduce the nominals they are associated with.<sup>6</sup> Creek has seven such applicative morphemes, listed below and drawn from chapter 19 of Martin (c).

(5) *Creek Applicative Prefixes*

|         |                                    |
|---------|------------------------------------|
| im-     | DAT, BEN                           |
| a-      | LOC “to, towards”                  |
| ak-     | LOC “into (water or a deep place)” |
| tak-    | LOC “on (the ground)”              |
| oh-     | LOC “on (top of)”                  |
| is-     | INST                               |
| (a)cak- | COMM <sup>7</sup>                  |

Objects cross-referenced by these applicatives (with the exception of dative subjects) uniformly receive nonsubject case marking. Thus case on nouns makes no distinction between direct objects, indirect objects, and other oblique nominals. This is the second area where marking in the verbal domain seems familiar given our understanding of case, but marking in the nominal domain proves puzzling. Not only is nominal case alignment mis-matched with the agreement and applicative system, but it seems redundant given the information encoded in the other two systems. On top

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<sup>6</sup>Munro & Gordon, Broadwell (b), Griffith, and Munro, for example.

<sup>7</sup>Martin (c) writes that this prefix has a very limited distribution, being restricted to use with motion verbs (p.167).

of this, nominal marking is largely optional. Two main questions come out of this discussion: *In what sense are the noun endings case?* and *In what sense are applied arguments ‘oblique’?* I will address these in turn.

## 2.2 Status of Noun Endings

As noted above, both subject and nonsubject marking are largely optional. A transitive sentence such as the one below is acceptable when both arguments are marked (6a), when either argument is marked (b-c), and when neither is (6d).<sup>8</sup>

- (6) a. Efvt      pose**n**      assēcis.  
          ifá-**t**      pósi-**n**      á:ssi:c-ey-s.  
          dog-SUBJ cat-NSUBJ chase.IMPF-P1-IND  
          ‘A dog was chasing a cat.’
- b. Efv      pose assēcis.  
      ifá-**t**      pósi      á:ssi:c-ey-s.  
      dog-SUBJ cat-∅ chase.IMPF-P1-IND  
      ‘A dog was chasing a cat.’
- c. Efv      pose**n**      assēcis.  
      ifá      pósi-**n**      á:ssi:c-ey-s.  
      dog-∅ cat-NSUBJ chase.IMPF-P1-IND  
      ‘A dog was chasing a cat.’
- d. Efv      pose assēcis.  
      ifá      pósi      á:ssi:c-ey-s.  
      dog-∅ cat-∅ chase.IMPF-P1-IND  
      ‘A dog was chasing a cat.’

Given this extensive optionality, one might wonder whether these affixes encode case at all. If the noun endings were not case, but rather something at the level of discourse, we might have a way of understanding their optionality as speaker choice perhaps indicating topicality. This is an idea

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<sup>8</sup>These sentences are based on those appearing in Martin (2011: 22). They were independently elicited in my own fieldwork.



that has entered the discussion of these markers due to their possible relation to Switch-Reference (SR) endings on verbs. The reason for considering a link between these two is their homophony in Creek and across the Muskogean language family. In Creek Same-Subject and Subject Case both take the form /-(i)t/, while Different-Subject and Non-Subject Case take the form /-(i)n/. Some have propose a unified analysis for these morphemes, namely that they track and mark the topic (subject) or track and mark a shift away from the topic (Hardy b,a,c; Martin c). In a survey of SR, McKenzie notes that homophony between SR and other morphemes is relatively common cross-linguistically, but that giving a historical or phonological account of this homophony in Muskogean is “more defensible” than attempting a unified semantic analysis (McKenzie: 34). I accept McKenzie’s proposal and do not pursue an analysis of /-t/ and /-n/ as switch reference markers instead of case.

Additionally, whatever function one might imagine these affixes having would necessarily include the distinction between subject and nonsubject. Switching the marking on two arguments switches their grammatical function, (7).

- (7) a. Cvcusen                      pvkpakocēt              afvcēcicet              os.  
ca-cósi-**n**                      pakpá:k-oci:-**t**              á:fac-i:ceyc-it              ó:-s  
1.SG.POSS-sister-**NSUBJ** flower-DIM-**SUBJ** happy-CAUS-SS be.IMPF-IND  
‘Flowers make my (younger) sister happy.’
- b. # Cvcuset                      pvkpakocē**n**              afvcēcicet              os.  
ca-cósi-**t**                      pakpá:k-oci:-**n**              á:fac-i:ceyc-it              ó:-s  
1.SG.POSS-sister-**SUBJ** flower-DIM-**NSUBJ** happy-CAUS-SS be.IMPF-IND  
#‘My (younger) sister makes flowers happy.’

In (7a) we see that word order is less important than case marking for determining grammatical role. The argument marked as nonsubject in each example is interpreted as the thing being made happy, even when this results in a strange interpretation as in (7b). Because of this, I continue to analyze these nominal endings as case.

### 2.3 Case Marking on Obliques

The first puzzle associated with the nominal case marking is their optionality. The second is the indiscriminate marking of all nonsubjects whether they are a direct argument of the verb or a more oblique nominal. Seen in this light, nominal case marking appears to be redundant and uninformative. I would argue, however, that many nonsubject arguments are not syntactically oblique, but rather that they have become direct through the presence of an applicative morpheme. This is also seen in languages like English and San Lucas Quiaviní Zapotec (SLQZ). In these languages a construction with an oblique argument (introduced by a preposition - the (a) examples) alternates with an applicative construction in which the ‘oblique’ argument is now direct - the (b) examples.

- (8) a. John baked a cake **for Mike**.  
 b. John baked **Mike** a cake.
- (9) a. B-i’lly Gye’eihlly **cēhnn Jwaany**. SLQZ  
 perf-sing Mike **with John**  
 ‘Mike sang with John.’
- b. B-i’lly-**nèe** Gye’eihlly **Jwaany**.  
 perf-sing-**with** Mike **John**  
 ‘Mike sang with John.’ (Munro: 285-6)

Following Baker (b) and Pykkänen, this alternation results in the oblique argument becoming a direct argument of the combined verb-applicative head. The theta-role that the noun has does not change and is still non-central, but its syntactic status changes. As we will see in §3, applied and direct arguments behave identically in Creek when they are the second of two internal arguments. This is evidence that applied and direct arguments are equal in the syntax.

Locations and temporal adverbs - also nonsubject marked - are less straightforwardly direct arguments of the verb. They can be freely added to a sentence without applicative morphology.

Martin (a) demonstrates that Creek verbs in general allow for a location argument without extra argument introducing morphology. These locations seem to be direct arguments of a limited set of motion verbs including ‘go’, where they are able to be interpreted as goals (10a). For verbs of position, transitive verbs, and active intransitives, the location cannot be interpreted as a goal (10b).

- (10) a. Cane **'tvlofvn** ayvhanes.  
 cá:ni **'taló:fa-n** ay-áha:n-ís  
 John **town-NSUBJ** go.SG-PROSP-IND  
 ‘John is going to town.’ (Martin a: =(6))
- b. Cane **'tvlofvn** letkvhanes.  
 cá:ne **'taló:fa-n** lítk-aha:n-ís  
 John **town-NSUBJ** run.SG-PROSP.IMPF-IND  
 ‘John is running in town.’  
 Cannot mean: John is running to town. (Martin a: =(7))

In (10b) the non-central argument *'tvlofvn* ‘town’ is locating the entire running event, not picking out the goal of the running event. These types of location arguments seem to be more oblique and freely added to a sentence like adjuncts are. However, if non-central arguments such as these were adjuncts, we would not expect there to be a limit to the number we might have in a clause. In English for example we can easily have three PP’s and a temporal adverb in a sentence.

- (11) Today Mary made bread for her mother in my kitchen with a skillet.

Creek, however, has an upper limit of three non-central arguments one of which must be introduced by an applicative morpheme. To translate the above sentence, Creek speakers use an additional chained clause in order to include the instrument.<sup>9</sup> In the example below, the bracketed clause

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<sup>9</sup>This strategy is also attested in Chickasaw (Munro: 294), with the additional requirement that the verbs must be identical.

includes another verb which hosts the instrumental prefix /is-/ associated with *mv vn le-hayv-tvpekse* ‘my skillet’.

- (12) Mucv nettvn Milet vn cukon [ mv vn  
 Móca nitta-n Méyli-t an- có:ko-n [ ma an-  
 this day-NSUBJ Mary-SUBJ 1.SG.POSS- house-NSUBJ [ DEM 1.SG.POSS-  
 le-hayv-tvpeksen **sēvnicet** ] vpvtkvvn ecken en  
 li-ha:ya-tapiksi-n **'s-i:y-aneyc-it** ] apátaká-n icki-n in-  
 cast.iron.skillet-NSUBJ **INST-RFL-help-SS** ] bread-NSUBJ her.mother-NSUBJ 3.DAT-  
 hayes.  
 ha:y-ís  
 make.IMPF-IND  
 ‘Today Mary used my skillet to make bread for her mother at my house.’

What this suggests is that in Creek the clause is able to accommodate the temporal adverb ‘today’ and the location ‘my house’ in a way that it cannot accommodate the additional instrument. In this sense, they are more central than the chained clause.

## 2.4 Interim Conclusions

In this section I have attempted to illustrate how the nominal case endings depart from our basic understanding of case, and have compared them with verbal affixes. These affixes - agreement and applicative morphemes - are obligatory and encode familiar distinctions such as agentive subject, direct object, indirect object, instrument, location. Nominal case on the other hand is almost entirely optional and encodes just two distinctions - subject and nonsubject. This mis-match between marking in the verbal and nominal domains is not expected under theoretical approaches that link case tightly to thematic role or agreement. We cannot reanalyze the nominal marking to save these

- (i) Ashila **tiwa'sh-li-kat** alhponi' **aa-tiwa'sh-li-kat** folosh **ish-tiwa'sh-li-tok**.  
 soup **stir-1.SG.AG-SS** kitchen **LOC-stir-1.SG.AG-SS** spoon **INST-stir-1.SG.AG-PST**  
 Lit. I stirred the soup, and I stirred it in the kitchen, and I stirred it with a spoon.  
 ‘I stirred the soup in the kitchen with a spoon.’ (Munro: 294)

theories though. I provided evidence that we should still consider nominal endings to be case as opposed to having a more discourse level function.

### 3 An Analysis of Optional Case

There are several approaches to dealing with optional case in standard theories. One approach to optional case links presence of case to information structure. These approaches say overt case marks unexpected subjects or objects. This might be because of their position in an animacy hierarchy like that proposed in Aissen. Verstraete and Meakins & O’Shannessy propose accounts of this type for optional Ergative in Australian and Austronesian languages. This type of approach predicts that there should not be optionality on a single argument in a single clause. This is exactly what we saw in (1), repeated below as (13). The prediction is that a non-human argument, if it is an unexpected subject, should always be case marked. On the other hand if it is not an unexpected subject, it should always be unmarked. This does not accurately capture the pattern of optionality in Creek.

- (13) Efv(**t**)      pose lvtē(**n**)                      assēcis.  
 ifá(-**t**)      pó:si lást-i:(-**n**)                      á:ssi:c-éy-s  
 dog(-**SUBJ**) cat    black-DUR(-**NSUBJ**) chase.IMPF-P1-IND  
 ‘The dog was chasing the black cat.’

In a second type of approach, optionality should be tightly constrained by structure. Taking an Agreement approach, where case features of a nominal are valued by a c-commanding functional head, absence of case would indicate that the functional head is defective and unable to assign case. We might assume that the nominal has some kind of default, unmarked case instead. This would predict that the optionality in (13) should correlate with presence or absence of certain functional head. To apply this to (13), the functional head in question would need to be content-less as well as morphologically null. This analysis would do nothing to illuminate the mechanisms behind optional case.

In a Dependent Case approach, where case is assigned in the presence of another DP within the same domain, optionality would indicate either a difference in category of the nominal (e.g. DP vs. PP) or a configurational difference (e.g. the nominals are or are not in the same domain). I will argue that these are precisely the two lines along which Creek optional case is constrained. It is in fact obligatory in a specific syntactic environment and on a particular kind of DP. The first restriction has not been previously reported for Creek, and the second has not received a formal account.

### 3.1 Two restrictions on optional case

Although previous work on Choctaw has taken the approach that there is a freely inserted null allomorph of case (Broadwell b; Griffith; Baker a), case in Creek is not entirely optional. Speakers find no perceptible difference in acceptability of a sentence with and without case on subjects, agents, and indirect objects/direct objects of a transitive (which I abbreviate as O1). But as soon as case is dropped on the second object in a double object construction, the sentence is judged ‘incomplete’ and not natural. I illustrate this below with a ditransitive verb.

- (14) Mile(t)        eccuste(n)                cetto\*(n)        emepvtēt  
 Méyli(-t)      i-ccó:sti(-n)              cítto\*(-n)        im-ip-áti:-t  
 Mary(-SUBJ) 3.POSS-child-(NSUBJ) snake-\*(NSUBJ) 3.DAT.give-IP-PST-SS  
 owis.  
 ow-ey-s  
 be-Pl.IMPF-IND  
 ‘Mary had already given her child a snake.’

In sentence (14) both internal arguments of *emetv* ‘to give’ can be marked with nonsubject case, but nonsubject case is obligatory on the direct object, *cetton* ‘snake.’

That overt case is obligatory on the second object in a double object construction (O2) is remarkable both because of the sharp contrast in speaker judgments and in light of the behavior of other arguments. A survey of 280 lines of text in a multi-speaker corpus reveals that for each of

the three argument types mentioned above (subjects, agents, O1's) they appear without overt case roughly 50% of the time. In contrast to this, O2's never appear without case.<sup>10</sup>

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<sup>10</sup>The number of tokens for O2 is supplemented with occurrences from my field notes.

(15) *Frequencies of Case Marking*

| Arg. Type | Overt Case  | Non-Overt Case | No. of Tokens |
|-----------|-------------|----------------|---------------|
| A         | 60%         | 40%            | 67            |
| S         | 50%         | 50%            | 33            |
| O1        | 58%         | 42%            | 60            |
| <b>O2</b> | <b>100%</b> | <b>0%</b>      | 45            |

These numbers should be taken as broad generalizations, yet they reveal the one syntactic configuration where nonsubject case is not optional. Although Munro & Gordon and Broadwell (a) report different restrictions on case marking in double object constructions for Choctaw, this finding is novel for Creek. I argue that this restriction should be characterized as obligatory overt case on the second of two internal arguments. I present additional data justifying this generalization in section 3.2.1.

The second restriction on optional case has been noted by Martin (c). In describing the distribution of case, Martin writes that personal pronouns and nouns modified by a numeral are typically case-marked (Martin c: 340). My own fieldwork confirms that personal pronouns as well as demonstrative pronouns must be overtly marked with case. Personal pronouns are case-marked whether or not they are emphatic. The pronoun in (16a) is interpreted emphatically because local person pronouns are dropped as a rule when they are cross-referenced by verbal affixes.

- (16) a. Cvcket           vne\*(**n**)           cetton           ahmes.  
cácki-t           áni\*(-**n**)           cítto-n           áhm-is  
my.mom-SUBJ me\*(-**NSUBJ**) snake-NSUBJ 1.SG.DAT.give.PFV-IND  
‘My mom gave **ME** a snake.’
- b. Cvcket           *pro* cēme\*(**n**)           ahmes.  
cácki-t           *pro* cí:mi\*(-**n**)           áhm-es  
my.mom-SUBJ *pro* you\*(-**NSUBJ**) 1.SG.DAT.give.PFV-IND  
‘My mom gave **you** to me.’



The personal pronoun in (16b) is not emphatic. It is necessarily overt since there is no verbal morphology with which it is cross-referenced, and pro-drop would make the person features irretrievable.

Demonstrative pronouns also always show up with overt case, as seen in (17b). In this example the demonstrative pronoun *mvn* ‘that’ refers back to a linguistic antecedent ‘wood’ introduced earlier in the folktale.

(17) a. Context: The dogs gathered wood for the hunter.

b. Momen *pro* **mvn** 'tēcvtēs.  
 mo:mín *pro* **má-n** 'ti:c-atí:-s  
 Then 3.SG DEM-NSUBJ light-P5-IND  
 ‘With **that** he built a fire.’ (Gouge: 47)

In addition to numeral phrases, which Martin notes must be overtly case marked, quantifier phrases also always receive case-marking.

(18) *Numerals*

Momen *pro* **cēpvvke hokkolen** ocēt omvtēs.  
 mo:mín *pro* **ci:pan-áki hokkô:li-n** ó:c-i:-t ó:m-ati:-s  
 and 3.SG **boy-PL two-NSUBJ** have-DUR-SS be-P5-IND  
 ‘And she had **two boys**.’ (Haas & Hill: 573)

In my corpus, nouns modified by a quantifier (other than *all*) never appear without overt case marking.

(19) *Quantifiers*

a. Este mvnetvlke **vvncomēt** vpokvtēs.  
 istí- manitt-âlki **anacomí:-t** apo:k-atí:-s  
 person young-PL **few/several-SUBJ** sit.TPL-P5-IND  
 ‘There once lived **a group of young men**.’ (Gouge: 288)

- b. Honvntake **vpvlwvt** Kvsappv ensuletawv haken,  
 honan-tá:ki **apálwa-t** kasá:ppa in-solítá:wa ha:k-ín  
 man-PL **some-SUBJ** north 3.POSS-soldier become-DS  
 ‘**Some of the men** became soldiers for the North.’ (Haas & Hill: 2)
- c. Mohmet vce **sulkēt** lokcvtēs.  
 móhmit ací **sólki:-t** lo:kc-atí:-s  
 then corn **much/many-SUBJ** ripen-P5-IND  
 ‘Then **a great quantity of corn** ripened.’ (Haas & Hill: 570)

Although Martin believes the endings on numerals and quantifiers to be switch-reference (2011: 340), I continue to analyze them as case on a nominal because of their distribution in argument positions. The syntactic status and semantics of numerals and quantifiers in Creek is a rich topic that deserves further study.

All other types of nominals have only optionally overt case. Case marking is optional on bare NP’s, NP’s preceded by a demonstrative or followed by an adjective. These are illustrated below.

- |      |    |  |    |  |
|------|----|--|----|--|
| (20) | a. | efv(t/n)<br>ífa(-t/n)<br>dog(-SUBJ/NSUBJ)            | c. | efv lane(t/n)<br>ífa lá:ni(-t/n)<br>dog brown(-SUBJ/NSUBJ)           |
|      | b. | mv efv(t/n)<br>ma ífa(-t/n)<br>that dog(-SUBJ/NSUBJ) | d. | mv efv vcule(t/n)<br>ma ífa acóli(-t/n)<br>that dog old(-SUBJ/NSUBJ) |

Additionally, temporal adverbs (which fall into the categories above) are optionally case-marked. The nominals that take either optional case-marking or obligatory case-marking are summarized below.

- |      |                                    |      |                                      |
|------|------------------------------------|------|--------------------------------------|
| (21) | <i>Nominals with Optional Case</i> | (22) | <i>Nominals with Obligatory Case</i> |
| a.   | NP                                 | a.   | N Numeral                            |
| b.   | Dem NP                             | b.   | N Quantifier                         |
| c.   | N Adjective                        | c.   | Personal pronouns                    |
| d.   | Temporal adverb                    | d.   | Demonstrative pronouns               |

Given the above data, I argue that an NP of a certain size must bear morphologically overt case. We have seen examples demonstrating that the relevant size is larger than a noun introduced by a demonstrative. In the next section I make this restriction precise, presenting evidence in favor of identifying the size with a feature associated with an additional D-layer, namely deixis.

### **3.2 Refining the Generalizations**

The disparate nature of these two restrictions poses a challenge to modeling the case system. They are also not the kind of restrictions one generally comes across in a case system. Instead of a nouns receiving case at a certain point along a definiteness or animacy hierarchy in the sense of Aissen, Creek nouns with more structure have obligatorily overt case while other nouns have optionally overt case. Instead of case varying with well-known clause transformations such as passives (Creek has no promotional passive construction) or ECM constructions (Creek does not allow overt subjects of non-finite clauses), the only configuration that makes a difference in case marking affects optionality (not type of case) and is restricted to O2's of ditransitives. While these are unconventional, I would argue that they are of a nature that can be modeled in DCT. In this section I formalize the two restrictions, arguing from Creek data.

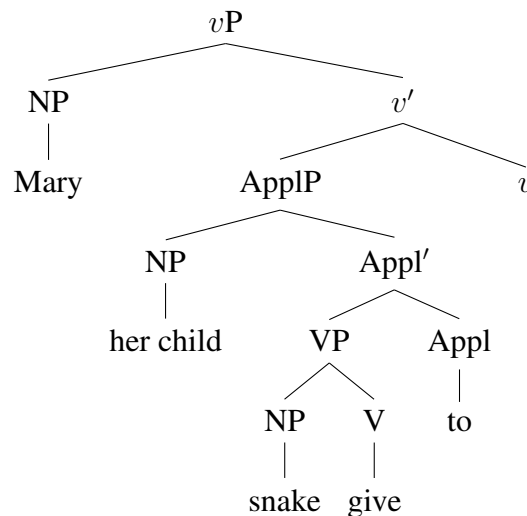
#### **3.2.1 Obligatory overt case assigned in *v*P**

The first restriction I tackle is that of obligatory case on O2. I present evidence that this should be characterized as obligatory case assigned to the second of two internal arguments. First, I demonstrate that the restriction on overt case cannot be reduced to a requirement on a direct object when it is preceded by another nonsubject argument. In a ditransitive, it is the direct object that must have overt case-marking. The order of the two internal arguments of a ditransitive is somewhat fixed. Keeping case marking constant, speakers interpret the first argument as the indirect object and the second as the direct object. They do so even when the resulting interpretation goes against world knowledge, see (23b)

- (23) a. *pro* Cvcuste(n)                      cetton                      ehmis.  
*pro* ca-ccósti:-(n)                      cítto-n                      íhm-éy-s.  
 1.SG 1.SG.POSS-child(-NSUBJ) snake-NSUBJ 3.DAT.give.PFV-1.SG.AG-IND  
 ‘I gave my son a snake.’
- b. #*pro* Cetton                      cvccusten                      ehmis.  
*pro* cítto-n                      ca-ccósti-n                      íhm-éy-s.  
 1.SG snake-NSUBJ 1.SG.POSS-child-NSUBJ 3.DAT.give.PFV-1.SG.AG-IND  
 #‘I gave the snakes my child.’

The indirect object of ditransitive verbs is cross-referenced with the dative applicative morpheme (here fused with the verb ‘to give’). As a result, I take the structure of a ditransitive to correspond to an applicative structure proposed by Pylkkänen. I give a partial tree in (24).

(24) *Applicative Structure of a Ditransitive*

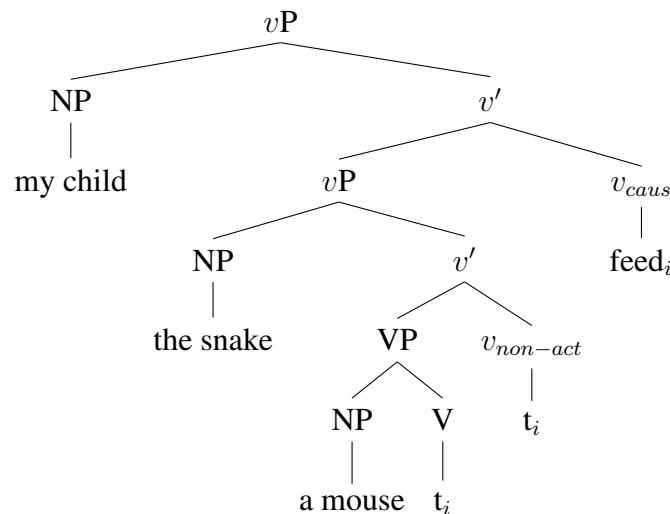


The causative of a transitive verb is another double object construction I investigate. Here as well case marking is obligatory on the original direct object, *cessen* ‘mouse.’

- (25) Cvcuswvt                      mv      cetto(n)                      cesse\*(n)                      hompihces.  
 ca-ccóswa-t                      ma      cítto(-n)                      císsi\*(-n)                      homp-éyh-is  
 1.SG.POSS-child-SUBJ DEM snake(-NSUBJ) mouse\*(-NSUBJ) eat-CAUS.PFV-IND  
 ‘My child fed the snake(s) a mouse.’

I adopt a structure that decomposes the verb and the causative morpheme, placing the causative morpheme in a causative  $v^0$  as proposed for Japanese by Harley. Johnson argues that the Creek direct causative embeds a non-active  $vP$  that introduces a non-agentive external argument. The relevant parts of this structure are sketched in (26).

(26) *Structure of a Causative*



In both of the above examples, the object with obligatory case marking is sister to the verb. However the same restriction on overt case marking holds when the second object is an applied argument. In (27) the second object is a benefactee and is cross-referenced with the dative prefix *im/n-*.

- (27) Mvhayv(t)    cvtv-hakv(n)    **ecke<sup>?</sup>(n)**    **enhahyes.**  
 Mahá:ya(-t)    cáta-há:ka(-n)    **ícki<sup>?</sup>(-n)**    **in-há:hy-is**  
 Mvhayv(-SUBJ) blue-bread(-NSUBJ) **3.POSS.mother<sup>?</sup>(-NSUBJ)** **3.DAT-make.PFV-IND**  
 ‘Mvhayv made blue bread dumplings **for her mother.**’

The judgments concerning overtness of case on the benefactee are not as clear as for other arguments. Nevertheless removing the case morpheme from *ecken* ‘her mother’ creates confusion as

to the intended meaning of the sentence. As such, I take this as a confirmation that a benefactee in second object position must have overt case marking.

Judgments are very clear, however, with another type of applicative construction. The verb in (28) below belongs to a group of bound verb roots which never appear without a locative prefix. The verbs in question only combine with a few select locative prefixes. The verb used in the example below, *-cvn-* ‘pour,’ can appear with the locative prefix /a-/ ‘to, into’, /ak-/ ‘to, into (water)’, or /oh-/ ‘on’, but never without or with other locative prefixes. In this way it differs from other verbs which may appear with or without any of the locative prefixes, and suggests that the applicative and the verb are in a closer relationship.<sup>11</sup>

- (28) Cēpvnē(t) kafe(n)            **sesketv\*(n)**    vcvncihces.  
 ci:páni:(-t) ká:fi(-n)            **'siskitá\*(-n)**    a-cán-céyh-c-is  
 boy(-SUBJ) coffee(-NSUBJ) **cup\*(-NSUBJ)** LOC-pour-RED.PL.PFV-IND  
 ‘The boy poured coffee into cups.’

The conclusion drawn from the data presented above is that obligatory case on the second object cannot be reduced to obligatory case on a direct object when it is preceded by another overt argument. Instead it became clear by comparing ditransitives, causatives, and applicative

---

<sup>11</sup>More empirical investigation is required to understand the structure of double object constructions such as the one in (28). For now the morpho-phonology gives us reason to believe that the second object is indeed the first argument of the complex  $V^0$ . Specifically, the verb’s phonological form is sensitive to the number of the applied argument *sesketv* ‘cup(s)’. (i) compares a sentence with a singular object to a sentence with a plural object.

- (i) a. John kafē sestketvn **avcvhnes**.  
 John ká:fi: 'siskitá-n a:-**acáhn**-is  
 J. coffee cup-NSUBJ DIR-**pour**.PFV-IND  
 ‘John poured coffee into **a cup**.’
- b. John kafē sesketvn **avcvncihces**.  
 John ká:fi: 'siskitá-n a:-**acán-céyh-c**-is  
 J. coffee cup-NSUBJ DIR-**pour-RED.PL**.PFV-IND  
 ‘John poured coffee into **cups**.’

In (ib) (the plural condition) the verb is followed by a combination of three morphemes: reduplication (*ca*), a special plural morpheme (*ic*), and perfective aspect - an infix */h/*. Regular phonological processes output the ending in (ib) phonemically represented as *-ceyh-c-*.

constructions that the argument with obligatory case may be either a direct or an applied argument, so long as it is the final object in the double object construction. Note also that these data provide additional evidence that applied arguments are direct arguments of the verb; they are subject to the same restrictions on overt case.

At this point a skeptical reader might wonder whether O2's obligatory case isn't due to the presence of two c-commanding nominals. There is evidence to the contrary, however. First, if the subject is pro-dropped, the second object must still be case marked.

- (29) *pro* Cvcuste(n)                      **cetto\*(n)**                      ehmis.  
*pro* ca-ccó:sti-(n)                      **cítto\*(-n)**                      íhm-éy-s.  
 1.SG 1.SG.POSS-child(-NSUBJ) **snake\*(-NSUBJ)** 3.DAT.give.PFV-1.SG.AG-IND  
 'I gave my child a snake.'

Secondly, the non-agentive subject of an unaccusative counts as the first object when the unaccusative has an applied argument. In (30) *lvtketv* 'to fall' takes a theme argument *tafv* 'feather' and a location argument. The theme argument is sufficient to condition obligatory overt case on the location argument.

- (30) Tafv(t)                      hvlvlątkoset                      **acetv-telekme\*(n)** ayohlvtikes.  
 tá:fa(-t)                      halalǎ<sup>1</sup>:tkos-it                      **á:cita-tilikmí\*(-n)** a:-oh-latêyk-is.  
 feather(-SUBJ) slow.INT-SS                      **blanket\*(-NSUBJ)** DIR-LOC-fall.PFV-IND  
 'A feather fell slowly onto a blanket.'

Finally, obligatory case cannot be reduced to linear adjacency with the verb. In (31) a manner adverb can intervene between the second object and the verb without changing the case pattern.

- (31) John kafē                      sesketv\*(n)                      *ahēricet*                      vcvncihces.  
 John ká:fi:                      'siskitá\*(-n)                      *a:hi:têyc-it*                      acán-céyh-c-is.  
 John coffee cup\*(-NSUBJ) *carefully*-SS                      pour-RED.PL.PFV-IND  
 'John carefully poured coffee into cups.'

These three examples have shown that case is obligatory on the second of two internal arguments. This configurational requirement can be seen in various double object constructions as well as with applicative unaccusatives. In other words, case is obligatory on a noun only if there is another noun in the same *v*P domain. This refined generalization suggests a dependent case approach.

### 3.2.2 Obligatory Case on a Deictic DP

Returning to the restriction on a type of nominal, I present evidence here that case is obligatory on a DP that is larger than an (in)definite DP. Specifically, I argue that a feature associated with this additional structure is the deictic feature. As a first instinct, one might try to correlate case with the specificity of a noun. While there seems to be a specificity implicature that goes with case on nominals, this is defeasible and as such is a pragmatic effect and not semantically linked to the case morpheme.

- (32) a. Non-Specific Context: I notice Mvhayv is acting strangely. You tell me she's mad at someone, but you don't know who.

- b. Mvhayvt        **estimv**        encvpakkēt        aret        owes.  
mahá:ya-t        **istéyma**        in-capákk-i:-t        a:ʔ-ít        o:w-ís.  
Mvhayv-SUBJ **someone** 3.DAT-mad.at-DUR-SS go.about.SG-SS be-IND  
'Mvhayv is (going about) mad at someone.'

Speaker comment: You say *estimv* 'cause you don't know who she's mad at.

- (33) a. Specific Context: I notice Mvhayv is acting strangely. You know she's mad at her friend Sally. I don't know Sally, so you just tell me she's mad at someone.

- b. Mvhayvt        estimv**n**        encvpakkēt        aret        owes.  
mahá:ya-t        istéyma-**n**        in-capákk-i:-t        a:ʔ-ít        o:w-ís.  
Mvhayv-SUBJ **someone-NSUBJ** 3.DAT-mad.at-DUR-SS go.about.SG-SS be-IND  
'Mvhayv is (going about) mad at someone.'



The presence of case on it's own does not entail specificity. In an out of the blue context, the sentence in (33b) can be felicitously followed up with the sentence in (34).

- (34) Mowis kerrvks.  
 Mowey's kiłł-ak-s  
 but know-NEG.1.SG.AG-IND  
 'But I don't know who.'

Thus we cannot correlate case with specificity.

Another possibility is that case correlates with definiteness of a noun, but indefinites and definites have optionally overt case. The noun *hokte(t)* 'a girl' in (35) is interpreted as an indefinite with or without case. The speaker comment on the example below indicates that the addressee is not familiar with the girl in question.

- (35) ē-mōwis kōwet, **hoktē(t)** tak-latikes.  
 i:-mōweys kōw-it, **hókti:(-t)** ta:k-la:têyk-is  
 RFL-do.so think-SS, **woman(-SUBJ)** LOC-fall.PFV-IND  
 'A girl fell deliberately.'

Speaker Comment: That would be if you were talking about just a girl at school or something, who I didn't know.

In (36), on the other hand, *mv hokte(t)* 'the girl' is used to pick out a particular girl that is familiar to the speaker and addressee. It is interpreted as a definite expression whether or not it bears overt case morphology.

- (36) ē-mōwis kōwet, **mv hoktē(-t)** tak-latikes.  
 i:-mōweys kōw-it, **ma hókti:(-t)** ta:k-la:têyk-is  
 RFL-do.so think-SS, **DEM woman(-SUBJ)** LOC-fall.PFV-IND  
 'The girl fell deliberately.'

The examples below are further evidence that the demonstrative *mv* creates a definite DP. Example (37a) serves as a linguistic context introducing several raccoons and a snake. The following sentence in (37b) picks out that unique snake.

- (37) a. **Wotkon**            **hecakhis.**                            **Momen cetto mo**  
          wótko-n            hic-áhk-éy-s                            mo:mín cítto =mo  
          raccoon-NSUBJ see-PL.PFV-1.SG.AG-IND and        snake =HE.ALSO  
          hehcis.  
          híhc-éy-s  
          see.PFV-1.SG.AG-IND  
          ‘I saw some raccoons. And I saw a snake.’
- b. \*(**Mv**) **cettot**            solotket ahyes.  
       \*(**ma**) **cítto-t**            solo:tk-ít á:hy-is  
       \*(**DEM**) **snake-SUBJ** slide-SS go.PFV-IND  
       ‘The snake slithered away.’

Speaker Comment: Without *mv* it sounds like there’s more than one snake.

As the speaker comment makes clear, the noun is interpreted as an indefinite introducing another snake into the context if it is not preceded by the demonstrative. I take this as evidence that the demonstrative encodes definite semantics.

Interestingly, the demonstrative itself can bear case. By adding case to the demonstrative, a speaker creates a gestural deictic expression. When the DP is deictic in this sense, case is obligatory on both the demonstrative and the noun.

- (38) **ē-mq̄wis** k̄wet, **mvt**            **hoktēt**            tak-latikes.  
       i:-mōweys kōw-it, **má-t**            **hókti:-t**            ta:k-la:tēyk-is  
       RFL-do.so think-SS, **DEM-SUBJ** **woman-SUBJ** LOC-fall.PFV-IND  
       ‘**That**<sub>deix</sub> **girl** fell deliberately.’

Speaker Comment: That would be like you’re pointing at her.

Notice that demonstratives pronouns are also obligatorily case marked, (17b) repeated here as (39b).

(39) a. Context: The dogs gathered wood for the hunter.

b. Momen *pro* **mvn** 'tēcvtēs.  
 mo:mín *pro* **má-n** 'ti:c-atí:-s  
 Then 3.SG DEM-NSUBJ light-P5-IND

'With **that** he built a fire.'

(Gouge: 47)

I analyze the complex form in (38) as an NP co-occurring with a true demonstrative, as opposed to a determiner that encodes a proximal versus distal distinction. Like Squamish (Gillon), we can understand Creek determiners and demonstratives as encoding deictic information.

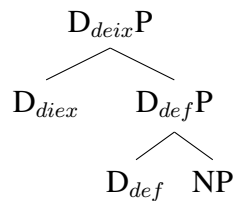
(40) *Determiners and Demonstratives in Creek*

|            | Determiner |        | Demonstrative |        |
|------------|------------|--------|---------------|--------|
|            | Proximate  | Distal | Proximate     | Distal |
| Subject    |            |        | yvt           | mvt    |
| Nonsubject | yv         | mv     | yvn           | mvn    |

I propose that the additional structure, here associated with symbolic and gestural deixis (see Fillmore for distinctions in types of deixis), requires the presence of overt case morphology.

Following Patel-Grosz & Grosz, I model deixis as an additional D-layer on a nominal. The structure sketched in (41) would apply to demonstrative pronouns as well as to fully deictic DP expressions. The difference between the two resides in the overtness of the restrictor NP. The NP is null in a demonstrative and personal pronoun. It is overt in a fully deictic DP.

(41) *Structure of a Demonstrative Pronoun* - adapted from Patel-Grosz & Grosz



If we extend this account to personal pronouns, the structure proposed here predicts that overt personal pronouns in Creek are actually deictic expressions and should behave differently from bound pronouns. Déchaine & Wiltschko provide evidence that Halkomelem (Salish) independent pronouns are unable to be bound or receive bound variable interpretations. They use this evidence to argue that Halkomelem independent pronouns are DP's. We do see some indirect evidence that this is the situation in Muskogean.

In Creek and Choctaw the only way to express a reflexive is through a special verbal prefix. In Choctaw this prefix is the form used for both anaphors and bound pronouns. When the reflexive prefix is coindexed with Bill, it is a bound pronoun. When it is coindexed with John, it is an anaphor.

(42) Bill-at John-a **il**-achiifa-chi-tok  
 B-SUBJ J-NSUBJ **RFL**-wash-CAUS-PST  
 'Bill<sub>i</sub> made John<sub>j</sub> wash self<sub>i/j</sub>.'  
 (Broadwell b: 278)

Broadwell's data for Choctaw also shows that *pro* cannot be a bound variable, (43a). The reflexive prefix also cannot stand in for a free pronoun, (43b).

(43) a. John-at pisa-tok.  
 J-SUBJ see-PST  
 'John<sub>i</sub> saw him<sub>j</sub>/\*himself<sub>i</sub>.'

b. John-at **ili**-pisa-tok.  
 J-SUBJ **RFL**-see-PST  
 'John<sub>i</sub> saw himself<sub>i</sub>/\*him<sub>j</sub>.'  
 (Broadwell b: 265)

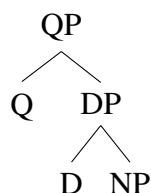
This data shows that the form that a bound pronoun takes is smaller than the form of a free pronoun. If the Creek data parallels this distinction in Choctaw, this suggests that overt pronouns are associated with more structure than bound pronouns.

This link between additional structure on a DP and case can be extended quite easily to nouns modified by a quantifier and a numeral. Drawing on evidence from St’át’imcets, Matthewson argues that quantifiers take DPs as their complements. In St’át’imcets quantifiers never combine with a bare NP but must combine with a DP.

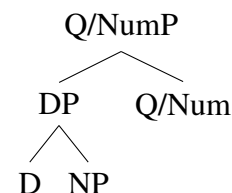
- (44) a. léxlex [tákem i smelhmúlhats-a]  
 intelligent [all DET.PL woman(PL)-DET]  
 ‘All (of the) women are intelligent.’ (Matthewson: 150, =(7a))
- b. \*léxlex [tákem smelhmúlhats]  
 intelligent [all woman(PL)]  
 ‘All women are intelligent.’ (Matthewson: 150, =(8a))

Because of data like the above Matthewson rejects the traditional view of quantifiers as determiners and proposes the structure below for all quantifiers (in St’át’imcets and English). Thus the presence of a quantifier coincides with more structure over and above a definite D-layer. I propose that Creek quantifiers and numerals can be analyzed along these lines and give them a parallel structure illustrated in (46).

(45) *Matthewson (2001)’s Structure*



(46) *Proposed Structure*



Additional support for this structure comes from the fact that quantifiers and numerals co-occur with determiner uses of the Creek demonstratives *mv* ‘that’, and *yv* ‘this.’



since we have seen evidence that it does not correlate with either specificity or definiteness on their own. What is crucial here is that overt case morphology is associated with some semantic effect. I link this meaning difference to additional functional structure, and although I formalize this notion using the deictic feature, the structure for bare NP's and (in)definites may or may not be associated with deictic semantics.

This discussion has brought up a large area of the Creek grammar that is in need of further exploration. The denotation of bare noun phrases, the possible presence of a null determiner, the semantics associated with case and *mv/yv* are all topics that would bear on this proposal. Exploring these topics would require an in depth analysis that is beyond the scope of this paper.

### 3.3 A Dependent Case Analysis

There are two main intuitions that my proposal seeks to model. First, there is a difference between the nonsubject case assigned to O1 and the nonsubject case assigned to O2. Specifically, case is only obligatorily overt when there are two *vP*-internal arguments. Second, overt case is sensitive to the size of the DP; demonstrative and personal pronouns and nouns with numeral and quantificational modifiers are large enough to require overt case marking. The proposal should allow for the optionality constrained by size of DP for the subject and O1, but shield O2 from such optionality. Both of these intuitions can be captured in a Dependent Case analysis. I propose that case assigned at the *vP*-phase level uniformly has an overt morphological realization. Case assigned at the CP-phase level, however, is spelled out with structurally sensitive vocabulary entries. In the rest of this section, I present the details of my proposal.

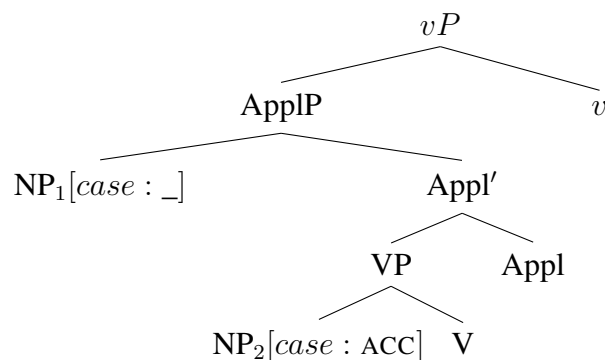
I give Creek a basic Nominative-Accusative Dependent Case analysis. I assume that abstract case is assigned to every nominal through the rules in (49). I equate nonsubject case with Accusative dependent case and subject case with “unmarked” Nominative case.

- (49) a. ACCUSATIVE: If NP<sub>2</sub> is c-commanded by a NP<sub>1</sub> in the same domain (*vP* or CP), assign NP<sub>2</sub> Accusative case.

- b. Elsewhere: assign Nominative case.

I argue that by allowing the grammar to access two different sets of vocabulary entries (one for each phase) we can account for the apparent optionality of case marking. My proposal builds on Baker's idea that case assignment is sensitive to phases as spell-out domains (Baker 2015: chapter 4). Drawing on Chomsky's phase theory (Chomsky b,a), Baker motivates considering phases as case domains. That is, domains at which c-command relations are evaluated and case is assigned. We saw evidence in the previous section that the *vP*-phase is important for Creek case assignment, specifically the data showing obligatory case for O2's. Crucially, it is only when there are two IA's that case can be assigned within the *vP*-phase. In a Creek ditransitive, because O2 is c-commanded by O1 at the *vP*-phase level, O2 will always be assigned accusative case. Below I have a partial tree diagram of an applicative double object construction at the point where *v* is merged.

(50) *vP* phase of a ditransitive



When c-command relations are evaluated, case is assigned following the Accusative Case Rule in (49a). Since NP<sub>1</sub> c-commands NP<sub>2</sub>, the case features of NP<sub>2</sub> are valued as [ACC].

NP<sub>1</sub>'s case features are left unvalued at this point, but will be valued Accusative at the CP phase level when NP<sub>1</sub> will be c-commanded by the subject. This is because I analyze *v* as a soft phase head in Creek. The distinction between hard and soft *v*-phase heads comes from Baker (a). A hard *v*-phase head triggers complete spell-out of VP and renders VP-internal arguments invisible



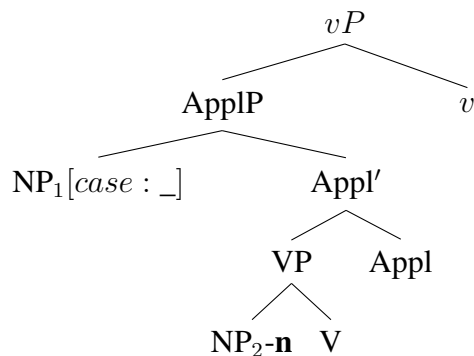
for later operations. A soft *v*-phase head, on the other hand, triggers partial spell-out of the VP and allows VP-internal arguments to be assigned case by arguments that are merged later. In a hard *v*-phase head language, unmarked case would be assigned to any *v*P-internal arguments with unvalued case features since it would be at this point that last resort operations applied. Baker cites Finnish as a language that has two unmarked cases: Nominative in the CP domain and Partitive in the *v*P domain (Baker a: 131). Since *v*P is not a complete phase when *v* is a soft phase head, unmarked case is not assigned until the CP phase level, where unvalued case features are valued by default as Nominative. This is the approach I take for Creek.

As a soft phase head, *v* triggers partial spell-out of the *v*P-phase. Accusative case on O2 is spelled out using the vocabulary entries I propose in (51).

(51) *Vocabulary Entries for case accessed at the vP-phase*

- a. [ACC] ↔ /-n/
- b. [NOM] ↔ /-t/

These will spell out the case features for any type of nominal. In this way O2 will always receive Accusative case and will be spelled out obligatorily as /-n/. Although for the sake of completeness I include an entry for Nominative case, it will never be assigned within *v*P in my analysis.

(52) *Partial Spell-out of vP-phase*

In fashioning my proposal in this way, locating the obligatory overtiness of case in the vocabulary items, I disassociate abstract case assignment from morphological overtiness.

When C is merged, c-command relations are evaluated again and case is assigned at the CP-phase level.

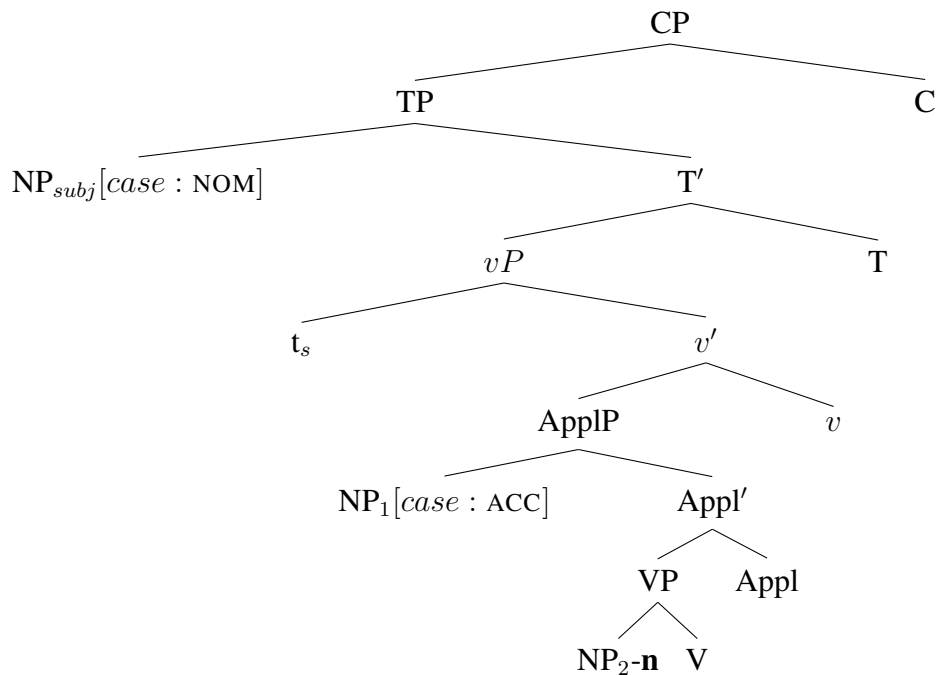
At this stage, there are two new c-command relations to consider.

(53) *C-command Relations at CP*

- a.  $NP_{subj} > NP_1$
- b.  $NP_{subj} > NP_2$

Because the case rules as defined in (49) are applicable in either domain, the same rules can apply at this point in the derivation.  $NP_2$  already has valued and spelled-out case features, so it will not be assigned Accusative a second time. The case features of  $NP_1$ , however, will be valued with Accusative case. The subject's case features will be valued Nominative by default. This is illustrated in the tree diagram below.

(54) *CP phase of a ditransitive: after case assignment*



The result of the derivation so far has case assigned to each nominal as desired. To derive the optionality of overt case morphology on the subject and O1, I propose that at the CP-phase a new set of vocabulary entries are relevant. They are structurally conditioned to spell-out case only for extended NP projections that have a certain feature associated with an extra D-layer. I abbreviate this as the deictic feature in the rules below.

(55) *Vocabulary Entries for case accessed at the CP-phase*

- a.  $[+DEIX, NOM]_{DP} \leftrightarrow /-t/$
- b.  $[+DEIX, ACC]_{DP} \leftrightarrow /-n/$

These rules will insert the morphemes  $/-t/$  and  $/-n/$  for only DP's which have a deictic feature and have been assigned a case feature. Deictic DP's are among those that have obligatorily overt case, but these rules are meant to force overt spell-out of case for other large DP's, including personal pronouns, demonstrative pronouns, and Numeral and Quantifier phrases. DP's that do not have the

deictic feature are associated with less structure and will not get their case features spelled out. This results in large DP's having obligatorily overt case and smaller DP's having non-overt case. As a reminder, I have argued that bare NP's and (in)definite DP's that have overt case morphemes project a larger DP structure without overt morphological material.

My proposal here has captured the requirements on spell-out of case morphemes by using vocabulary entries for case features that differ by the phase at which they are accessed. Having vocabulary entries for case at the *v*P-phase level that are only sensitive to case features, I derived the lack of optionality for O2. I argue that our theory must allow for this variation in vocabulary entries by phase in order to account for Creek optional case. Since we already have the notion of spell-out at the phase level, I believe this innovation does not overly complicate the theory. The addition of this level of sensitivity at the point of Vocabulary Insertion predicts that we should see more languages in which morphemes are sensitive to different features in one phase compared to another. Other morphemes that may show sensitivity to deictic features in particular are Farsi *ra* (Zahra Mirrazi, p.c.) as well as Japanese case (Hisao Kurokami, p.c.). It remains to be seen if these morphemes also show sensitivity to phases.

## 4 Comparing Alternative Accounts

In this section I compare two alternative approaches to the current approach - one within DCT and the other in a Head-Licensed case framework. I then show how each fares when we consider non-central arguments and constructions with a *v*P-internal *pro*. Both alternative approaches make wrong predictions about the optionality of case in these two contexts.

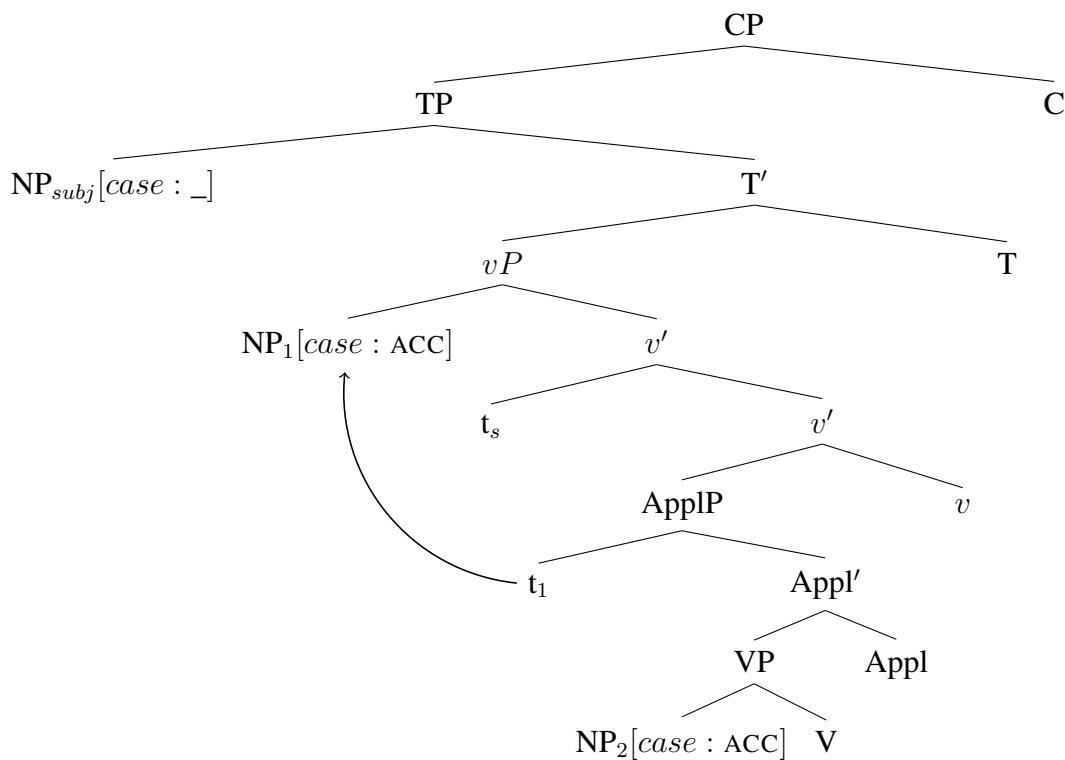
### 4.1 A DCT alternative: hard *v* phase

Another way to derive optional nonsubject case on O1's is to derive case through movement of O1 out of the *v*P-phase. This approach moves away from structurally conditioned vocabulary items for Accusative. Instead, it derives overt case on O1 through Object Shift into the CP domain. This approach takes *v* to be a hard phase head; elements remaining in the *v*P-phase are invisible to

elements in the higher CP domain. In this line of thinking, only DP's that move out of the *v*-phase will be visible to higher arguments like the subject and so receive Accusative case in a c-command configuration with the subject.

To derive nonsubject case on the highest object, one could imagine that the deictic (or other) feature must be licensed in an agree relation with *v*. This would trigger movement of the Deictic DP, QP, NumP, or other nominal with that feature to spec, *v*P. Once in spec, *v*P the nominal is visible to and c-commanded by the subject and will be assigned Accusative case via the Accusative case rule introduced previously.

(56) *CP phase of a ditransitive: Object Shift of OI*



This approach unifies the vocabulary entry for Accusative case. Accusative is assigned under c-command in either the domain and it is uniformly spelled out as /-n/ whenever it is assigned. Under this approach there is a structural divide between OI's that have overt case and those that don't. Only an NP projecting additional structure associated with a deictic feature will shift and be valued

Accusative. The fact that this movement is restricted to O1 follows from locality restrictions on movement.

The following are the revised vocabulary entries for this approach. Nominative is the only rule that is still structurally conditioned.

(57) *Vocabulary Entries for Case*

- a. [ACC]  $\leftrightarrow$  /-n/
- b. [+DIEX, NOM]<sub>DP</sub>  $\leftrightarrow$  /-t/
- c. [NOM]  $\leftrightarrow$   $\emptyset$

This approach makes several wrong predictions. First, a movement account predicts that we should see presence of case correlating with specificity since object shift would allow an argument to escape the domain of existential closure (Diesing) We have seen evidence that this prediction is not borne out. There is no more than an implicature of specificity associated with case. The approach here also makes the wrong predictions when we consider *pro* and non-central arguments.

## 4.2 Extending to *pro*

A second prediction that this approach makes has to do with the behavior of case when O1 is *pro*-dropped. The obligatoriness of case on O2 is sensitive to whether O1 is an overt NP or *pro*. The baseline sentence is repeated in (58) below; when O1 is an overt NP, case is obligatory on O2.

- (58) Cēpvnē(t) kafē(n)                    **sesketv\*(n)**    avcvncihces.  
 ci:páni:-t ká:fi:-n                    **'siskita-\*(n)**    a:-acancéyhē-is  
 boy-SUBJ coffee-(NSUBJ) **cup-\*(NSUBJ)** DIR-pour.RED.PL.PFV-IND  
 'The boy poured coffee into cups.'

However, when O1 is *pro*-dropped, case marking becomes optional on O2, (59a) and (59b).

- (59) a. John *pro* **sasketv(n)** avcvncihces.  
 John *pro* **cup(-NSUBJ)** DIR-pour.into.PL.PFV-IND  
 ‘John poured (it) into cups.’
- b. *pro pro* **sasketv(n)** avcvncihces.  
*pro pro* **cup(-NSUBJ)** DIR-pour.RED.PL.PFV-IND  
 ‘(He) poured (it) into cups.’

There is independent evidence that *pro* counts as syntactically present for case assignment.

When the subject is *pro*-dropped the first object can still have nonsubject case-marking.

- (60) *pro* puccusten                      cetton                      ehmēs.  
*pro* po-ccósti-n                      cítto-n                      íhm-i:-s  
 1.PL 1.PL.POSS-child-**NSUBJ** snake-NSUBJ 3.DAT.give.PFV-1.PL.AG-IND  
 ‘(We) gave our son a snake/snakes.’

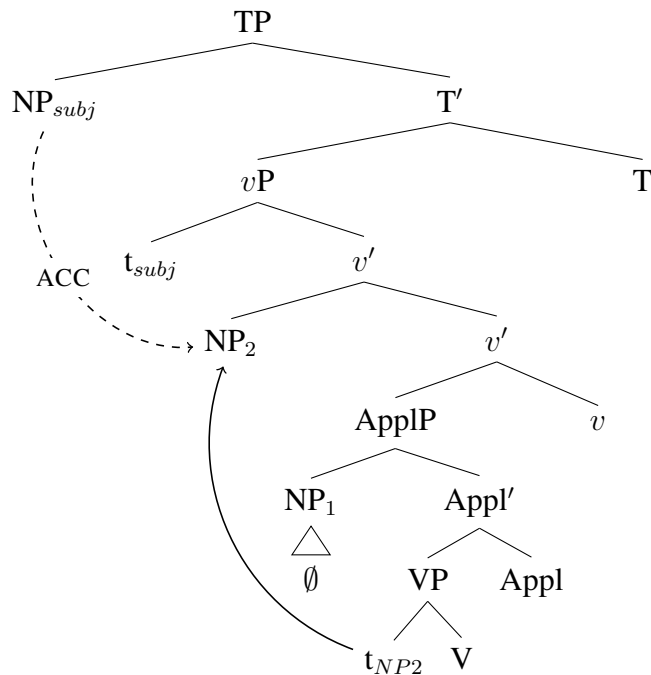
Verbs also show agreement with *pro*, providing further evidence that it is syntactically present in the relevant way.

- (61) Cvcket                      *pro* cetto(n)                      **ahmes.**  
 cácki-t                      *pro* cítto(-n)                      **áhm-is.**  
 my.mother-SUBJ **1.SG** snake(-NSUBJ) **1.SG.DAT.give.PFV-IND**  
 ‘My mom gave (me) a snake.’

Taking this as evidence that *pro* is syntactically present for case assignment purposes, an account of this phenomena in the current hard *v*-phase head analysis would predict that case should not be optional on O2. Because *pro* is syntactically present and is taken into consideration when c-command relations are evaluated at the *vP*-phase level, either a hard *v*-phase analysis or the soft *v*-phase analysis predict that O2 should be obligatorily case-marked.

Alternatively, we could say that when O1 is *pro*, the second object has the option of moving out of the *vP* domain and escaping obligatory nonsubject case assignment. Under this account, O2 would be assigned Accusative case under c-command with the subject.

(62) *Movement of O2 over pro*



Here the hard and soft *v*-phase analyses make different predictions. In a hard *v*-phase analysis, once Accusative case is assigned, it is spelled out as /-n/ regardless of the location or size of the nominal. Thus the hard *v*-phase approach predicts there to be no optionality on O2 when O1 is pro-dropped, contrary to fact. In the soft *v*-phase approach advocated for in this paper, Accusative case, having been assigned at the CP-phase level, would be subject to structurally conditioned spell-out rules. Thus we would observe the same optionality that we do on O1's in other contexts.

### 4.3 Extending to non-central arguments

Another argument in favor of a soft *v*-phase approach comes from the behavior of non-central arguments. Pure locations, not interpreted as goals or introduced by a locative prefix, are optionally marked with nonsubject case.<sup>12</sup>

<sup>12</sup>This example was based on one appearing in Martin (2011: 24). The sentence was independently re-elicited in my own fieldwork.



- (63) *pro* [ Hvccē lvpalv(n) ] likēs.  
*pro* [ hacci: lapa:la(-n) ] leyk-i:-s  
 3.SG [ river other.side(-NSUBJ) ] sit.SG-DUR-IND  
 ‘It’s over on the other side of the river.’

The location in (63) modifies the verb and could feasibly be within *vP*. It behaves in this example like an O1. The soft *v* phase approach predicts that we should see locations behaving differently depending on where they are merged.

Temporal adverbs are also optionally nonsubject case-marked.

- (64) **Mucv-nettv** hvvm nettv hēren punpvlhoyen,  
**móca-nittá** hatâm nittá hī:ʰi-n pon-palhoi-in  
**this-day-∅** again day good.INT-NSUBJ 1.PL.DAT-lend.IMPL-DS  
 ‘Today we have been given a good day.’ (Haney 2015, Interview)

- (65) **Mucv nettvn** Milet vncukon vpvtkv  
**móca nittá-n** Méyli-t an-có:ko-n apátaká-n  
**this day-NSUBJ** Mary-SUBJ 1.SG.POSS-house-NSUBJ bread-NSUBJ  
 ecken enhayes.  
 ícki-n in-ha:y-ís  
 her.mother-NSUBJ 3.DAT-make.IMPF-IND  
 ‘Today, Mary is making traditional bread at my house for her mother.’

A note about the surface position of the temporal adverb is in order. Notice that *mucv nettv* ‘this day’ precedes the subject in both examples. My DCT analysis predicts that if any nominal is merged above the subject, it will trigger accusative case assignment on the subject. This is something we never see. As a result, this analysis forces us to say that the subject is always the highest argument in the structure at the point of case assignment. Thus objects and temporal adverbs linearly preceding the subject must have occupied a lower position at the point of case assignment and been preposed after case is assigned.<sup>13</sup>

<sup>13</sup>There is a position to the right of the subject that temporal adverbs can occupy.

In the soft *v* phase account, accusative case has structurally conditioned spell-out rules that are eliminated in the hard *v* phase account. Those structurally conditioned spell-out rules for Accusative would derive the optional /-n/ marking for non-central arguments merged above *v*P. The hard *v* phase account, lacking these rules, makes the prediction that non-central arguments should be obligatorily case-marked.

#### 4.4 A Head-licensed case approach

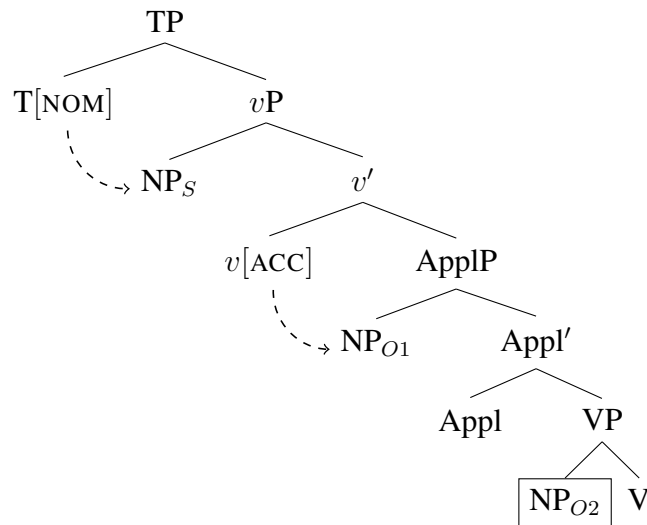
The optionality of case on non-central arguments also allows us to adjudicate between the Dependent Case approach and another possible approach in a Chomskyan Head-Licensed case framework. In essence this approach links case with agreement on T (and possible also *v*), but some more recent proposals have dis-associated agreement from case assignment (e.g Baker & Vinokurova). Setting aside the case-agreement mismatch, we can model the case system to a certain extent with an approach where functional heads license case to nominals in their c-command domain. In this section I will briefly consider and reject a Head-Licensed Case approach to modeling the Creek case system.

To derive the restriction on O2 in a Head-Licensing approach, I propose that T and *v* assign Nominative and Accusative case respectively to the highest argument their domain. In this proposal, O1 acts as an intervener, blocking case assignment to O2. Instead we could imagine O2 receiving either default case or case from the applicative head or lexical verb. What is crucial is that it is blocked from receiving Accusative case from *v*. This is illustrated below.

- |     |  |               |                      |         |                        |
|-----|--|---------------|----------------------|---------|------------------------|
| (i) | Tom <b>hofonvnkē</b>   | [ Milē(t)     | esnvrkesēt           | owat    | ] vmonayemvts.         |
|     | Tom <b>hofonanki:</b>  | [ Méyli:(-t)  | is-nátkis-i:-t       | o:w-â:t | ] am-onâ:y-imát-s      |
|     | Tom <b>some time ago</b>                                     | [ Mary(-SUBJ) | INST-pregnant-DUR-SS | be-C    | ] 1.SG.DAT-tell-P3-IND |
|     | ‘Tom told me <b>some time ago</b> , that Mary was pregnant.’ |               |                      |         |                        |

Further research needs to probe possible case-marking patterns when the temporal adverb precedes or follows the subject.

(66) *Case Assignment in a Ditransitive*



In order to link the optionality of case on subject and first objects to their structure, we will use the structurally conditioned spell out rules we had in the Dependent Case approach. There is precedence for these type of Vocabulary Insertion rules in a Head-Licensed case framework. Legate (b) argues that some languages have a case split that is sensitive to DP-internal properties. Since this approach has arguments receiving case from functional heads and locates variation in the spell-out rules, this account parallels Legate’s account for languages like Warlpiri and Niuean (Legate b,a). I additionally adopt Legate’s proposal for an underspecified vocabulary entry for case, which I write as (67e).

(67) *Vocabulary Entries for Case in Creek*

- a.  $[+DEIX, NOM]_{DP} \leftrightarrow /-t/$
- b.  $[NOM] \leftrightarrow \emptyset$
- c.  $[+DIEX, ACC]_{DP} \leftrightarrow /-n/$
- d.  $[ACC] \leftrightarrow \emptyset$
- e.  $[CASE] \leftrightarrow /-n/$

Since Vocabulary Insertion follows the Maximal Subset (or Elsewhere) principle (Halle & Marantz), any syntactic node with either Accusative or Nominative case will be spelled out with the vocabulary entries specified for those case features. Any nominal receiving a case feature other than Nominative and Accusative will be spelled out with the *elsewhere* item, here represented as the underspecified [CASE] feature.

The two central ingredients to the Creek case system - case by phase and structurally conditioned spell-out - are captured with equal ease in this approach. Instead of making reference to domains explicitly, this Head-Licensed approach has case assigned by the two relevant functional heads - T and *v* - which agree with the highest element in their domain. A virtue of this approach is that it shields the second object from the structural distinction made by Accusative and Nominative case. Since O1 will always act as an intervener blocking assignment of Accusative to O2, O2 is not predicted to show structurally conditioned optionality. Where this account falls short is when it comes to other non-central arguments that receive nonsubject case. This account predicts that temporal adverbs and locations will receive default (or some other) case and should always have overt morphological case. As we saw in the previous subsection, this is not accurate.

## 5 Conclusions

This paper has presented an analysis of Creek nominal case and has argued that the challenges this case system poses to theory are best captured in a Dependent Case approach. This nominal case system proved challenging because case was not entirely optional and because nonsubject case indiscriminately marked direct and oblique arguments. I proposed solutions for both challenges using dependent case assignment rules and structurally conditioned vocabulary entries for case features. I further argued that not only should case be assigned at the phase-level but that we should allow case to be spelled out differently at different phases. By linking presence and absence of case to structure along two different lines, the proposed analysis re-affirms that case is tightly linked to both the structure of the clause and DP-internal structure.

This paper has also highlighted the typological interest of Muskogee Creek in terms of Baker & Bobaljik. As an Active language where agreement tracks theta-roles, the Nominative-Accusative alignment of Creek nominal case morphemes poses a challenge to Inherent and Agreement-based theories of case. The existence of a language like Creek with Active agreement but Nominative-Accusative case, provides additional support to the claim in Baker & Bobaljik that a language with an active case system does not exist. Dependent Case Theory not only allows for Creek nominal case to mis-match with the active agreement system, but most naturally accounts for the structural sensitivity of optional case.

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## Appendix A: Abbreviations

The following is a list of the abbreviations I use:

|                          |                          |
|--------------------------|--------------------------|
| ACC accusative           | IP medio-passive         |
| AG agent                 | LOC locative             |
| BEN benefactive          | NEG negation             |
| C complementizer         | NOM nominative           |
| CAUS causative           | NSUBJ nonsubject case    |
| COMM commitative         | P1 recent past           |
| DAT dative               | P3 distant past          |
| DEM demonstrative        | P5 remote past           |
| DET determiner           | PAT patient              |
| DIM diminutive           | PFV perfective aspect    |
| DIR directional          | PL plural                |
| DIST distal              | POSS possessive          |
| DS different subject     | PROSP prospective aspect |
| DU dual                  | PROX proximal            |
| DUR durative             | PST past tense           |
| FUT future               | RED reduplication        |
| IMP imperative           | RFL reflexive            |
| IMPF imperfective aspect | SG singular              |
| IMPL impersonal passive  | SS same subject          |
| IND indicative           | SUBJ subject case        |
| INF infinitive           | TOP topic                |
| INST instrumental        | TPL triplural            |
| INT intensifier          |                          |