Abstract

Argument Structure and Argument-marking in Choctaw

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This thesis examines *argument structure*—the linking relations between verbs and their arguments—in Choctaw, a Muskogean language spoken in Mississippi and Oklahoma. My focus is on three morphological reflexes of argument structure, which constitute the *argument-marking* systems of the title. Firstly, the verb may host various morphological markers of *voice*, which often carry labels like 'transitive' or 'causative'. Secondly, the verb may host clitics which index (or 'double') certain arguments. Thirdly, overt arguments may carry case-markers. Following recent work in Minimalism and Distributed Morphology, I argue that each of these morphological systems is 'read off' a syntactic structure, which encodes verbal argument structure through a root and an arrangement of functional heads (v, Voice, Appl). This syntactic structure must make use of, at least, *trivalent* specifier requirements, in the sense of Kastner (2020), and a *licensing* relation. And in the mappings from syntactic structure to morphological and semantic output, there must be a high degree of *contextual conditioning*, in the sense of Wood and Marantz (2017). Of particular relevance to the syntax-morphology interface, I argue that *case-assignment* is morphological, and subject to contextual conditioning in the same way that morphological exponence is.

I first discuss voice morphology, focusing on the (anti)causative alternation and syntactic causatives. I concentrate on some key puzzles, concerning the multifunctionality of several pieces of morphology. Upon inspection, there turns out to be a many-to-many correspondence between syntactic behavior, morphological exponence, and interpretation. To account for this I adopt two innovations. In the syntax, I adopt *trivalent* specifier requirements: Voice heads come in three flavors, either mandating, banning, or permitting a specifier. And at the interfaces with morphology and semantics, I adopt a loose connection between syntactic heads, their exponence, and their interpretation, in which allomorphy and allosemy are widespread.

I then turn to ERG and ABS clitics, which distribute in an *active* alignment, and reveal yet more properties of Voice. I show that ERG clitics mostly index external arguments (i.e. inhabitants of Spec-VoiceP), but there are exceptions: some ERG clitics index internal arguments, and some external arguments cannot be indexed by ERG clitics. I propose that arguments indexed by ERG clitics have been assigned an [ERG] case value by Voice, but crucially, this case value need not be assigned in a Spec-head configuration with Voice, nor is a Spec-head relation with Voice sufficient. Rather, the establishment of the case-assignment relation is subject

to contextually-conditioned rules, just like morphological exponence and semantic interpretation.

I then turn to applied arguments, some of which are indexed by DAT clitics—and as with ERG-indexed arguments, I show that DAT-indexed arguments have a particular case value ([DAT]). The chapter is focused on an informative bifurcation in the syntactic behavior of applied arguments: some applied arguments can become the subject when they are the highest argument in their clause; others will always remain objects, even when they are the highest argument. The two classes of applied argument have disjoint thematic interpretations. I argue that this distinction motivates an additional property of argument-structure-related functional heads: they may form a syntactic *licensing* relation with arguments which 'freezes' them in place. I also show that an argument having or lacking a DAT case value is orthogonal to its syntactic behavior, providing further evidence for the non-syntactic nature of Choctaw case.

Finally, I turn to the case-markers that appear on overt NPs. These markers distribute in a nominative alignment, but also compete with zero-marking. To capture the distinction between nominative and oblique arguments, I show that a single [NOM] case value assigned from a functional head is required. I then argue that the distinction between the presence and absence of case-marking is orthogonal to their underlying case *value*, but is a consequence of certain rules and constraints active in the latter stages of the morphological derivation. Furthermore, combining the analysis of case-marking with the analysis of clitic-doubling outlined above, we arrive at an analysis where arguments may end up with zero, one or multiple case values by the end of the derivation. Consequently, the notions of Case-licensing and the Case Filter cannot be a part of the syntactic derivation.

In sum, this thesis argues that the mapping from syntactic structure (which encodes argument structure) to its interfaces requires a syntax enriched with trivalent specifier requirements and licensing, and a high tolerance for contextual conditioning in the domains of exponence, interpretation, and case-assignment. In the process, this thesis brings to light a number of interesting new generalizations about Choctaw morphosyntax.

Argument Structure and Argument-marking in Choctaw

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Contents

List of abbreviations

The abbreviations below are for Choctaw and Chickasaw examples. For examples from other languages, I reproduce the glosses as they appear in source cited, unless otherwise noted.

1/2/3	1st/2nd/3rd-person
ABS	absolutive (Class II)
ACT	active
AFF	affirmative
BEN	benefactive
CAUS	causative
COM	comitative
COMP	complementizer
CONTR	contrastive case-marker
DAT	dative (Class III)
DEM	demonstrative
DPST	distant past
DU	dual
DS	different subject
EMPH	emphasis
EVID	evidential
ERG	ergative (Class I)
FOC	focus
FUT	future
GG	g-grade
HG	h-grade
HNG	hn-grade
IMP	imperative
INSTR	instrumental
IRR	irrealis
LG	l-grade
LINK	linker morpheme
LOC	locative
LV	light verb
MOD	modal
NACT	non-active
NEG	negative
NG	n-grade
NMZ	nominalization
NOM	nominative
NPI	negative polarity item
OBL	oblique
PC	paucal
PL	plural
PREV	previous-mention marker
PST	past tense
PTCP	participle
Q	question marker
RECIP	reciprocal
REFL	reflexive
SG	singular
SP	special case-marker
SUP	superessive
SS	same subject
TNS	default tense
YG	y-grade

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framing. In our conversations he takes every idea seriously, and treats none of them as sacred. Talking to Bob, you often get the sensation of treasured theoretical underpinnings being yanked out from under you—and to be clear, this is a very good thing! I also want to add that his *Formal Foundations of Linguistic Theories* course, which I took in my first semester at Yale, remains an academic highlight of my PhD program (it was also a grade lowlight, but of course, that is not Bob's fault).

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Chapter 1

Introduction

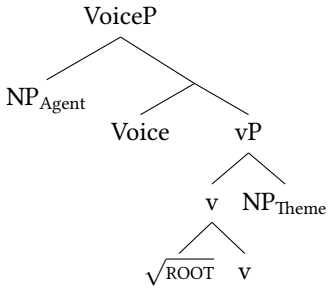
This dissertation is about two things. It is about Choctaw, an indigenous American language spoken today by many Choctaw people, mainly in Mississippi but also in Oklahoma. It is also about syntax—specifically, the syntax of argument structure and how it is realized at the interfaces with morphology and semantics. The dissertation is thus intended to serve two purposes: to provide detailed novel documentation and analysis of contemporary Mississippi Choctaw, and to inform syntactic theory on the basis of this new data and analysis. These two purposes are, to an extent, in tension. The kind of documentation and analysis that is motivated by questions in theoretical syntax is not the same as the kind of documentation and analysis that is motivated either by looking holistically at the properties of the language itself, or by the interests of the language community (Mithun 2014). However, I hope that this dissertation is able to make a real contribution in both areas, and I believe that this tension has been in many ways productive.

This introduction is organized as follows. §1.1 provides a very general overview of the theoretical standpoint of this dissertation, and explains what is meant by the 'argument structure' and 'argument-marking' of the title. §1.2 then outlines the empirical focus of the dissertation: argument structure and argument-marking in Choctaw. This section is divided into subsections concerning the causative alternation, syntactic causativization, the verbal clitic/agreement system, applicatives, and the nominal case-marking system (this order roughly tracks the order of chapters in the dissertation). §1.3 outlines the theoretical framework employed throughout the dissertation: minimalist syntax, with flexible and contextually-conditioned mappings to both morphology and semantics. §1.4 discusses the methodology of the dissertation—primarily targeted elicitation with some use of spontaneous speech—and explores the tension been descriptive and theoretical fieldwork, mentioned above. Finally, §1.5 provides a one-paragraph summary of each chapter.

1.1 Theoretical overview

The syntactic contribution of this dissertation mainly concerns verbs—specifically the relationships between verbs and their arguments. I take as my point of departure the *constructivist* model of verbal syntax, which holds that 'verbs' are epiphenomena within larger syntactic structures composed of roots, functional heads, and arguments (see Marantz 2013b for an overview). These three classes of elements combine in particular configurations, and different configurations result in different overt forms and interpretations. For instance, the structure in (1) represents a fairly mainstream structure often assumed for agentive, transitive verbs. There is a $\sqrt{\text{ROOT}}$, which forms a complex head with a categorizing functional head v. This complex head forms a constituent 'vP' with an argument labelled NP_{Theme}. vP forms a constituent together with the functional head Voice, which in turn forms a larger constituent with the second argument, labelled NP_{Agent} (my assumptions about syntactic structure-building are discussed in §1.3.1).

(1) **Agentive transitive structure**



The $[\sqrt{\text{ROOT}}\ \text{v}]$ constituent introduces an eventuality (a state or event), and some property of $[\sqrt{\text{ROOT}}\ \text{v}]$ causes NP_{Theme} to be interpreted as the theme of that eventuality. Some property of Voice causes NP_{Agent} to be interpreted as an agent of the same eventuality.

In English, roots like $\sqrt{\text{OPEN}}$ and $\sqrt{\text{MURDER}}$ sit very comfortably in this agentive, transitive syntactic structure, while roots like $\sqrt{\text{DIE}}$ do not. This is shown by the sentences in (2).

(2) **Some roots are compatible with agentive transitive syntax**

a. The hero opened the door.

b. The villain murdered the hero.

c. *The villain died the hero.

Thus by severing roots from their argument structure, we capture how a single argument structure can associate with multiple roots. Similarly, we can easily capture how a single root might appear in more than one kind of argument structure. $\sqrt{\text{OPEN}}$, for instance, is compatible with an intransitive argument structure as in (3a), as well as a transitive one in (2a). And the acceptability of $\sqrt{\text{DIE}}$ and $\sqrt{\text{MURDER}}$ in the intransitive

structure is now reversed from what it was in the transitive structure in (2):

(3) **Some roots are compatible with intransitive syntax**

a. The door opened.

b. *The hero murdered.

c. The hero died.

We simply say that some property of the root $\sqrt{\text{OPEN}}$ permits it to occur with the agentive transitive structure in (1), as well as whatever structure underlies the intransitive clause in (3a). $\sqrt{\text{MURDER}}$ and $\sqrt{\text{DIE}}$ have different restrictions, and they can all be encoded in the same way—as a property of the root.

In this way, the traditional notion of a 'verb' (or verb stem), as an atomic syntactic terminal which 'takes arguments', no longer has any theoretical status. Rather, the verb (stem) is a root, plus a sequence of hierarchically nested syntactic phrases which are compatible with that root. In (1) these phrases are vP and VoiceP, but other phrases are possible. These phrases may themselves contain other arguments (NPs, PPs and other phrases) in addition to the material they contribute to the verb stem.

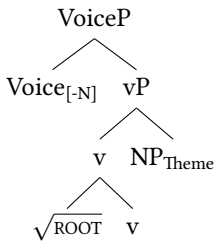
For this model to work, the functional heads that make up the VoiceP constituent in (1) need to perform a few core syntactic functions related to structure-building. Firstly they need to provide, or fail to provide, syntactic positions where arguments can be merged—that is, they have requirements about what can and cannot merge as their specifier. Secondly they need to have *labels* (e.g. 'Voice', 'v'), allowing them to combine with other functional heads in appropriate selectional relations. Thirdly they need to be able to have selectional properties of their own. The root provides *some* instruction about what functional heads may be merged in the immediate context of the root, but there are also many regularities in how these functional heads are assembled that are the same across all roots. These properties—the specifier requirement, the label, and the selectional properties—I take to be the invariant properties of functional heads. A large part of chapter 3 is concerned with which syntactic structures can go with which roots in Choctaw, and how the relationship between roots and their encasing syntax is regulated by the mechanisms just outlined.

But the functional heads that make up the VoiceP have functions beyond syntactic structure-building. Firstly, they have particular *semantic* interpretations, upon transfer to the LF interface; secondly, they have particular *morphological* realizations, upon transfer to the PF interface; and thirdly, they enter into *agreement* and *case-assignment* relations with arguments. I take these relations to be established in the morphological component too (i.e. on the PF branch), following work such as Marantz (1991/2000), Bobaljik (2008). An agreement relation involves a transfer of features or feature values from an argument to a functional head, and a case-assignment relation involves a transfer of features or feature values in the other direction,

from a functional head to an argument.[1] An idea running through this dissertation is that these interface properties of functional heads—morphological realization, semantic interpretation, and the establishment of case-assignment/agreement relations—are not fixed but instead are *contextually-determined*. On the one hand, the idea that the morphological realization of a functional head is contextually-determined is fairly mainstream, under the names *allomorphy* and *suppletion*. On the other hand, the idea that the interpretation of a functional head might be contextually-determined too is somewhat less mainstream, though researchers are increasingly making use of the idea of *contextual allosemy*, the semantic analogue to allomorphy. And the notion that the case-assignment or agreement properties of a functional head might be similarly contextually-determined is fairly novel. While it has appeared in various guises in other works, it has not, to my knowledge, been explicitly argued for very much.

English is not a particularly morphologically-exuberant language, making it less than ideal for exemplifying allomorphy, allosemy, or contextual case/agreement. Instead I'll turn to Choctaw. In this dissertation I analyze Choctaw as having three Voice heads, each of which may show contextual morphology, contextual interpretation, and contextual case-assignment/agreement properties. For the purposes of illustration, let's take the Voice head which cannot introduce a specifier, 'Voice$_{[-N]}$', which is used to form many non-active verbs. I assume it forms the structure in (4)—just like that in (1), except without an external argument in Spec-VoiceP.

(4) **Syntax of a non-active verb**



In chapter 3 I argue that Voice$_{[-N]}$ has at least two exponents: the suffix *-a* and the infix *<l>*. The examples in (5) show that both may appear together (*<l>* becomes *h* before *ch*).

(5) **Morphology of non-active verbs**

a.	*kobaaf-**a***	'it broke'
b.	*ho<**h**>chifo*	'she was named'
c.	*a<**l**>wash-**a***	'it (was) fried'

The root determines which of the exponents appears.

1. I take agreement and case-assignment to be fully dissociated in Choctaw. See §1.3.3 for discussion of how this fits in with our theoretical and typological understanding of case-agreement interactions.

On the semantic side, Voice$_{[-N]}$ can have at least two interpretations: it can either introduce an implicit agent, leading to a passive interpretation as in (6a), or it can fail to introduce an implicit agent, leading to an inchoative interpretation as in (6b).

(6) **Interpretations of non-active verbs**

a.	*boow-**a***	'he was beaten up'
b.	*kobaaf-**a***	'it broke'

Just as with the case of allomorphy above, the root determines which alloseme Voice$_{[-N]}$ contributes to interpretation.[2]

Finally, Voice$_{[-N]}$ exhibits different *case-assignment* behaviors too. It typically does not assign any case, with the consequence that the subject of intransitive non-active verb will be indexed by an ABS (absolutive) clitic, as in (7).[3]

(7) **Intransitive subject indexed by ABS clitic**

Chi fámatok̲o̲?
chi-faam-a-tok-o̲
2SG.**ABS**-$\sqrt{\text{WHIP}}$-NACT-PST-Q
'Did you get whipped.' (A_10-16-18_119)

But in the context of certain roots, Voice$_{[-N]}$ *does* assign case—specifically, it assigns an [ERG] (ergative) case value to the intransitive subject, with the consequence that the subject is now indexed by an ERG clitic, as in (8).

(8) **Intransitive subject indexed by ERG clitic**

Yakot ish hik̲íyatok.
yako-t **ish**-hik̲íy-a-tok
like.this-PTCP 2SG.**ERG**-$\sqrt{\text{STAND}}$-NACT:NG-PST
'We stood there.' (A_04-04-19_11)

The evidence that a positional verb like *hik̲íya* has an unaccusative syntactic structure like (4) is discussed in §4.6.2. Chapter 4 focuses in detail on the conditioning environments which determine whether a Voice head does or does not assign an [ERG] case value, and the syntactic structures in which this assignment operation occurs.

I have thus illustrated two things that will form the theoretical basis of this dissertation. First, I showed how the traditional 'verb' can be thought of as an epiphenomenon, constructed from the root and a series of functional heads according to the syntactic demands of the root. Second, I showed how a single functional

2. Some roots allow Voice$_{[-N]}$ to freely contribute either alloseme—see the discussion in chapter 3 on mediopassives.

3. Details of the glossing and sourcing conventions used for the examples in this dissertation are given in (§1.2.1).

head within this assembled structure (typically capped by a VoiceP) might exhibit contextual morphological behavior, contextual semantic behavior, and contextual case-assignment behavior. Together, these theoretical priors guide the investigation of Choctaw undertaken in this dissertation. In particular, the broad questions I attempt to answer are: (a) in what structures do roots, argument-introducing functional heads and arguments combine—that is, what are the possible ways in which syntactic pieces can be organized within the traditional VP? And (b) what do these functional heads do, in terms of their morphological contribution, their semantic contribution, and their formation of Agree and case-assignment relations with arguments, in the syntactic contexts in which they end up?

More broadly, we can now flesh out what is meant by the 'argument structure' and 'argument-marking' of the title of this thesis. By argument structure I am referring to the association between roots, the syntactic structures they appear in, and the interpretations that they get. By argument-marking I am referring to the ways in which a language might opt to *realize* the syntactic structure which arrives at the interfaces. This includes morphological spellout of functional heads at PF, and the morphological realization of case-assignment and agreement relations that hold between functional heads and arguments.

In the rest of this introductory chapter, I first introduce Choctaw, particularly focusing on the phenomena relevant to argument structure and argument-marking (§1.2). I then flesh out the theoretical framework I employ in more detail (§1.3). §1.4 discusses methodology, and in §1.5 I provide a quick summary of each chapter in this dissertation, stating how each chapter provides some piece of the answers to the questions just asked.

1.2 Choctaw

The language status, orthography, phonology, morphology and syntax of Choctaw are discussed in more detail in chapter 2. In this section, I provide a brief overview of those aspects of Choctaw grammar that comprise the empirical focus of this dissertation.

1.2.1 Basic properties

Choctaw is a Western Muskogean language spoken today by several thousand people in the Mississippi Band of Choctaw Indians, and perhaps several hundred people in the Choctaw Nation of Oklahoma. It is written using the Roman alphabet and employs several digraphs (<sh>:[ʃ], <ch>:[tʃ], <lh>:[ɬ]) and one consistent diacritic—the under-bar, which indicates that a vowel is nasalized (a̲, i̲, o̲). The acute accent is also used, though it serves a different purpose in the two orthographies I employ in this dissertation—it marks long vowels in the Modern Orthography, and it marks pitch accents in the Modified Traditional

Orthography.[4] I generally provide examples with a four-line gloss, as in (9). The first line is the Modern Orthography and the second line is the Modified Traditional Orthography with morphemic decomposition. At the right edge of the final line I also provide the source of the example (see §1.4 for discussion of the data, including the sources of the examples).

(9) **Four-line Choctaw example**

Suzie at im abóshi áyiskachit tahlihmat im achokmatok.[5]
Suzie-at im-abooshi aayiskachi-t tahli-hm-at im-achokma-tok
Suzie-NOM DAT-room clean-PTCP finish.ACT-when-SS DAT-happy-PST
'When Suzie had cleaned her room, she was happy.' (C_02-08-18_222)

For ungrammatical examples, examples for which I only have speakers' judgments (with no audio recording), and examples with internal parentheses and slashes, I omit the Modern Orthography line.

The example in (9) illustrates several properties of Choctaw: it has complex verbal and nominal morphology and default SOV order, known arguments may be null, and most non-main clauses carry switch-reference marking, which indicates whether a given clause has the same or a different subject from its matrix clause.

In the next five subsections, I discuss the grammatical properties of Choctaw that constitute the empirical focus of this dissertation. Firstly, I introduce the causative alternation (§1.2.2) and productive, morphological causatives (§1.2.3)—these are much of the empirical focus of chapter 3. Then, I introduce the verbal clitic/agreement system (§1.2.4), which is the focus of chapter 4, datives and applicatives (§1.2.5), which are the focus of chapter 5, and finally the nominal case-marking system (§1.2.6), the focus of chapter 6.

1.2.2 The causative alternation

Many Choctaw verbs come in pairs. Generally, one member of the pair, the *non-active* alternant, is syntactically intransitive. The other member, the *active* alternant, is syntactically transitive, with the subject of the non-active alternant corresponding to the object of the active alternant. One such pair is shown in (10).

(10) **Causative alternation**

a. Itii-yat kobaaf-**a**-tok.
stick-NOM $\sqrt{\text{BREAK}}$-**NACT**-PST
'The stick broke.'

4. This is obviously not an ideal situation. See §2.2 for discussion of orthographical issues in Choctaw scholarship.

5. Most of the names in the example sentences in this thesis are traditionally men's names, and both men and women engage in stereotypically gendered activities. There are other biases, such as that the word *hattak* 'man' appears a lot more than the word *ohooyoh* 'woman'. This bias comes from me, since most of the examples were prompted by something I said during an elicitation session. I regret this.

b. Hattak-at iti kobaf-**fi**-tok.
man-NOM stick $\sqrt{\text{BREAK}}$-**ACT**-PST
'The man broke the stick.' (adapted from Broadwell 2006:124)

The examples in (10) illustrate two important properties of the causative alternation in Choctaw. Firstly, non-active and active verbs each bear different morphology, *-a* and *-li* (assimilated to *-fi*): neither is derived by simply adding morphological material to the other. In the typology of Haspelmath (1993), this is classed as an *equipollent* alternation. Secondly, a common interpretation of the non-active alternant is *inchoative*—that is, a 'changing' or 'becoming' event compatible with an unspecified or absent external cause.

Two further properties of the causative alternation are illustrated by the examples in (11). Firstly, non-active verbs do not all have an inchoative interpretation—*basha* 'get cut' has a passive interpretation (this is formalized in chapter 3). Secondly, we see that the agreement/clitics used to index the arguments of these verbs tracks the arguments' thematic roles—the theme subject in (11a) corresponds to the theme object in (11b), and both are indexed by an ABS clitic (on which see §1.2.4).[6]

(11) **Causative alternation with 1st/2nd-person arguments**

a. Sa-bash-a-h.
1SG.ABS-$\sqrt{\text{CUT}}$-NACT-TNS
'I got cut.'

b. Chi-bash-li-li-tok-o̲?
2SG.ABS-$\sqrt{\text{CUT}}$-ACT-1SG.ERG-PST-Q
'Did I cut you?' (Broadwell 2006:126)

A final important property of the causative alternation is shown by the pairs in (12)—the *-li* suffix generally used to form the active alternant is also used, with some roots, to form the non-active alternant. Non-active verbs formed with *-li* generally alternate with active verbs formed with the suffix *-chi*, which, as discussed in the next section, is *also* used to form productive morphological causatives.

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6. I choose to illustrate the agreement facts using a non-active verb with a lexical passive interpretation like *basha* 'get cut', rather than a non-active verb with an inchoative interpretation like *kobaafa* 'break'. This is because in order to trigger ABS or ERG agreement, an argument has to be 1st or 2nd person (see §1.2.4), and 1st/2nd-person subjects of inchoative non-active verbs like intransitive 'break' get a particular kind of interpretation that seems to, exceptionally, prefer ERG indexing, as in (i).

(i) **1st/2nd-person subjects of inchoative non-actives can be ERG**

Kati̲na ish kobáfahí kiyoh?
káti̲na **ish**- kobaaf-ahii-kiyo-h
why 2SG.**ERG**-break.NACT-MOD-not-TNS
'Why won't you break?' (A_10-18-19b_17)

(12) ***-li* forms both active and non-active verbs**

a. *bash-a* 'he got cut'
*bash-**li*** 'she cut it'

b. *shalal-**li*** 'he slipped'
shalaa-chi 'she dragged him'

Thus the causative alternation sets up several puzzles in syntax, morphology and semantics. My analysis in chapter 3 attempts to cover a range of this data.

Regarding conventions of glossing and morphological decomposition for verb stems, I alternate between two approaches in this dissertation. Sometimes I separate the voice morphology from the root and gloss them separately, as in (13a), and sometimes I treat the stem as a single item, as in (13b). The choice depends on the point being illustrated.

(13) **Conventions for decomposing verb stems**

a. *Ahí mat bashah.*
ahii-m-at **bash-a**-h
potato-DEM-NOM $\sqrt{\text{CUT}}$-**NACT**-TNS
'The potatoes were being cut.' (I_01-31-18_154)

b. *Ahí mat bashah.*
ahii-m-at **basha**-h
potato-DEM-NOM **cut.NACT**-TNS
'The potatoes were being cut.' (I_01-31-18_154)

1.2.3 Causatives

Virtually any verb can be causativized by adding a suffix *-chi*. The transitive verb in (14a) is causativized in (14b).

(14) **Causativization with *-chi***

a. *Ak̲akoshi ish awashliha̲?*
ak̲akoshi ish-awashli-h-a̲
egg 2SG.ERG-fry.ACT-TNS-Q
'Did you fry the eggs?' (F_10-17-18_51)

b. *K̲aka chi awashlichílách̲ih.*
k̲aka chi-awashli-**chii**-l-aach̲i-h
chicken 2SG.ABS-fry.ACT-**CAUS**-1SG.ERG-FUT-TNS
'I will make you fry the chicken.' (A_10-08-18_52)

The subject of (14a), which is indexed by an ERG clitic, corresponds to one of the verb's objects in (14b), where it is indexed by an ABS clitic.

The reader may have noticed that the causative suffix *-chi* is also used to form some active verbs, as in

(12b). I therefore discuss productive causatives, or 'syntactic causatives', alongside the causative alternation in chapter 3. I take as a starting point the 'decompositional' analyses of Japanese causatives (Miyagawa 1984, Harley 2008), in which the productive, syntactic causative suffix *-(s)ase* is similarly 'recycled' to form some so-called 'lexical causatives'.

1.2.4 Clitics/agreement

In Choctaw, verbs agree with their arguments, and nouns agree with their possessors. There are *at least* two sets of affixes used for these purposes: ERGative and ABSolutive. The table in (15) provides the paradigm for ERG, ABS and DATive affixes (which are discussed in §1.2.5).[7] Note that in much previous work on Muskogean languages, ERG, ABS and DAT are referred to as Class I, II and III, respectively (Munro and Gordon 1982, Munro 1984b, Broadwell 2006).[8]

(15) **Argument-indexing affixes**

	ERG (I)	ABS (II)	DAT (III)
1SG	-li	sa-/si-	(s)am-
2SG	ish-	chi-	chim-
1PC	ii-/il-	pi-	pim-
1PL	ii-/il-	hapi-	hapim-
2PL	hash-	hachi-	hachim-
3	–	–	im-

ERG and ABS affixes are distinguished only in the 1st and 2nd-person. 3rd-person arguments are not indexed by any overt morphology. In previous work, I have argued that these affixes have the syntactic status of *clitics* rather than agreement affixes (Tyler 2019b,a). However, in this dissertation I sideline this distinction for the most part, and focus on how the choice to index an argument with an ABS clitic vs. an ERG clitic is determined.

The choice of clitic used to index an argument generally tracks the argument's thematic role—that is to say, Choctaw exhibits an *active* clitic/agreement system.[9] Agents and other prototypical 'external arguments' are cross-referenced by ERG clitics, as shown in (16).

7. For jussive verbs and verbs with low negation, the ERG series is replaced by a dedicated irrealis ERG series. See §2.5.2 for discussion.

8. It has been fairly common in work on Muskogean languages to refer to the DAT series as dative, as I do here (e.g. Broadwell's 2020 chapter in *The Routledge Handbook of North American Languages*). The terms 'ERG' and 'ABS' are less common, and I introduced them in Tyler (2019a) in order to draw attention to the parallelism between the active alignment found in Choctaw and that found in Basque—in the scholarship on Basque, the terms 'ERG' and 'ABS' are standard.

9. Active alignment is also known as 'active-stative', 'split-S', 'split-intransitive', 'agent-patient' and 'semantic' alignment, among other names. See Mithun (1991) for discussion of the proliferation of terminology in this area.

(16) **Distribution of ERG clitics**

a. *Oklí hilhatok.*
okl=**ii**-hilha-tok
PL=**1PL.ERG**-dance-PST
'We danced.' (F_10-25-18_12)

b. *Iti í palhallitok.*
iti **ii**-palhalli-tok
log **1PL.ERG**-split.ACT-PST
'We split the logs.' (F_10-17-18_2)

ERGhood also predicts subjecthood: all arguments indexed by ERG clitics are subjects of their clause.

Themes, experiencers and other prototypical 'internal' arguments tend to be cross-referenced by ABSolutive clitics, as in (17).

(17) **Distribution of ABS clitics**

a. *Bill at hapi pisatok.*
Bill-at **hapi**-písa-tok
Bill-NOM **1PL.ABS**-see:NG-PST
'Bill saw us.' (H_06-01-17_22)

b. *Yakot pittolatok.*
yako-t **pi**-ttola-tok
like.this-PTCP **1PC.ABS**-fall-PST
'We fell like this.' (A_04-04-19_22)

ABS-hood does *not* predict objecthood: both objects (17a) and subjects (17b) may be cross-referenced by an ABS morpheme.

In chapter 4, I discuss the distribution of ERG vs. ABS clitics in more detail, and provide an analysis in which ERG-indexed arguments are distinguished from ABS-indexed arguments by a formal diacritic. I characterize this diacritic as a particular *value* of a case ([K]) *feature*. Generally, external arguments have this [ERG] value and internal arguments do not. But crucially, I focus on some *exceptions* to this general pattern, in order to show that '[ERG]' is a necessary addition to the formal system, and that the ERG/ABS clitic distinction cannot be simply determined by looking at the syntactic position of the arguments.

1.2.5 Datives and applicatives

Arguments with a range of 'oblique-like' interpretations, such as beneficiary, maleficiary, experiencer and goal, are indexed by DATive clitics, as in (18). DAT-indexed arguments may be obligatorily selected by the root, or they may be optional and unselected. As with ABS-indexed arguments, the property of being indexed by a DAT clitic does not predict objecthood—(18b) shows a DAT subject.

(18) **Distribution of DAT clitics**

a. *Mary yat a payatok.*
Mary-yat **a**-paya-tok
Mary-NOM **1SG.DAT**-call-PST
'Mary called me.' (C_01-30-18_140)

b. *Chiponnaho?*
chi-ponna-h-o
2SG.DAT-skilled-TNS-Q
'Are you skilled?' (E_06-22-16_51)

Inspection of the paradigm in (15) shows that the DAT clitics can, for the most part, be morphologically decomposed into an ABS clitic accompanied by some nasal segment or feature. Nonetheless, in this dissertation I treat DAT clitics as atomic morphemes—this choice is discussed in chapter 5.

Choctaw verbs can also be furnished with several applicative prefixes, which introduce arguments with comitative, locative, superessive and instrumental interpretations. These applicative prefixes are themselves prefixed with ABS or DAT clitics which agree with the applied argument, as in (19).

(19) **Applicative prefixes**

a. *Anáko sabá tóksalách<u>i</u>h.*
an-aak-o **sa-baa**-toksal-aachi-h
me-FOC-OBL.SP **1SG.ABS-COM**-work-FUT-TNS
'She will work with ME.' (E_07-18-16_17)

b. *Hattak ma im áchopalitok.*
hattak-m-a **im-aa**-chopa-li-tok
man-DEM-OBL **DAT-LOC**-buy-1SG.ERG-PST
'I bought it from that man.' (D_04-15-19_39)

In chapter 5, I provide an analysis of datives and applicatives in Choctaw, which relies on both Appl heads in the sense of Pylkkänen (2002, 2008), *and* a [DAT] case value.

One of the most interesting puzzles with respect to Choctaw datives and applicatives is what happens when they are added to non-active verbs. As the examples in (20) show, when an applied dative argument (in a dashed box) is added to a non-active verb, it can either become the subject of its clause (indicated here by the presence of NOM case) or the object. Remarkably, this difference seems to correlate with a difference in the *thematic role* of the applied argument—the applied subject in (20a) is a (negatively) affected experiencer, while the applied object in (20b) is a beneficiary.

(20) **DAT argument may become the subject or object of a non-active verb**

a. *Katie at jack i kochófatok.*
Katie-at jack i-kochoofa-tok
Katie-NOM jack DAT-bend.NACT-PST
'The jack bent on Katie.' (A_10-18-18_49)

b. *Katie ano talit i kochófatok.*
Katie-ano tali-t i-kochoofa-tok
Katie-OBL.CONTR metal-NOM DAT-bend.NACT-PST
'The metal bent for Katie.' (A_10-18-18_51)

In chapter 5, I examine the theoretical consequences of this pattern, and propose an account in terms of *nominal licensing*, as a separate syntactic relation from case-assignment and agreement.

1.2.6 Nominal case-marking

The final phenomenon of Choctaw that I focus on in this dissertation is the case-marking borne by nominals themselves. Choctaw nominal case-marking exhibits nominative-oblique alignment, as illustrated by the examples in (21) (I follow Byington 1870 and Nicklas 1974 in using the term 'oblique' rather than 'accusative').

(21) **Nominative-oblique alignment**

a. *Hoshít talówah.*
hoshii-**t** taloowa-h
bird-**NOM** sing-TNS
'The bird is singing.' (A_04-02-19_51)

b. *Hattak mat ak ittolatok.*
hattak-m-**at** ak=ittolatok
man-DEM-**NOM** down=fall-PST
'The man fell over.' (K_06-15-16_82)

c. *Ohóyot alla lhiyohlitok.*
ohooyo-**t** alla lhiyohli-tok
woman-**NOM** child chase-PST
'The woman chased the kid.' (A_02-01-18_78)

Objects in Choctaw typically go unmarked for case, as in (21c). However, (22) shows that overt oblique case marking is possible (and in some cases, overtly marking oblique is obligatory).

(22) **Objects may have overt oblique case marking**

Si oshítik at hattak cháha ma pisatok.
si-oshiitik-at hattak cháaha-m-**a** písa-tok
1SG.ABS-daughter-NOM man tall.NMZ-DEM-**OBL** see:NG-PST
'My daughter saw that tall man.' (H_06-16-16_54)

Choctaw's case system displays several quirks and complexities that are addressed in more detail in chapter 6.

By investigating the case-marking system of Choctaw, we end up at perhaps the most theoretically significant property of the Choctaw argument-marking: the fact that its nominal case-marking system does

not align with its clitic/agreement system. The examples in (23) show that a NOM subject can be cross-referenced by an ERG, ABS or DAT clitic (regardless of the transitivity of the verb).

(23) **NOM subject indexed by ERG, ABS and DAT clitics**

a. *Chishnákósh taposhshik ish ikbih.*
chishn-aak-oosh taposhshik **ish**-ikbi-h
you-FOC-NOM.SP basket 2SG.**ERG**-make-TNS
'YOU make the baskets.' (L_08-08-17_125)

b. Chishn-aak-oosh nípi **chi**-nna-h-o̲?
you-FOC-NOM.SP meat 2SG.**ABS**-want-TNS-Q
'Do YOU want the meat?' (constructed example)

c. *Chishn-ákósh sholosh at chi̲ kaníyatok.*
chishn-aak-oosh sholosh-at **chi̲**-kaniiya-tok
you.FOC-NOM.SP shoe-NOM 2SG.**DAT**-lose-PST
'YOU lost the shoes.' (C_06-14-17_9)

Throughout this dissertation, I argue that both the nominal case-marking system and the clitic/agreement system traffic in purely-postsyntactic values of case features ([NOM], [ERG] and [DAT]), and that neither system is straightforwardly reducible to any other property, syntactic or non-syntactic. That is, the clitic/agreement system cannot be derived from semantics, and the nominal case-marking system cannot be derived from the subject/non-subject distinction. In the concluding chapter to the dissertation, chapter 7, I consider the theoretical consequences of this analysis, in which multiple case-assignment runs rampant.

In the next section, I outline the theoretical framework in which the description and analysis in this dissertation is situated.

1.3 Theoretical framework

This dissertation employs a minimalist syntactic framework, discussed in outline in §1.3.1. In §1.3.2 I discuss in particular the so-called 'layering' approach to the syntax of verbal argument structure. In §1.3.3 I discuss the role that case and agreement play in the architecture, immediately applying to the output of syntax and serving as the input to the rest of the morphological derivation. §1.3.4 then discusses the *Late Insertion* approach to morphology (*Distributed Morphology*), and §1.3.5 discusses the analogous Late Insertion approach I assume for semantic interpretation.

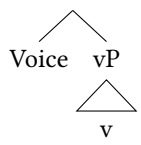
1.3.1 Minimalist syntax

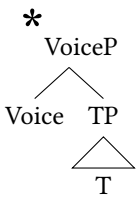
I assume many of the central tenets of minimalist syntax, following the innovations of Chomsky (1995, 2000, 2001, 2008). I assume that there is one level of syntactic structure-building (the 'Narrow Syntax'), and that

syntactic structures are uniformly binary-branching and are composed out of functional heads and roots (which I take to be individuated in the syntactic derivation; see Harley 2014 and responses to her article). Syntactic structures are composed by recursively applying an operation 'Merge' which forms a constituent out of a head and a phrase, or a head and a root.[10] The application of Merge is regulated by properties of functional heads, including, at least, selection, specifier requirements, and EPP features. In addition, I make use of certain concepts from X'-theory: namely, that there is a real distinction between the complements of heads, their specifiers, and their adjuncts. Accordingly, I label the constituent headed by 'X' as 'XP', in keeping with X'-theory notation. Finally, I assume that syntactic structures can be divided into certain domains or 'phases'.

Let's turn first to the properties of functional heads that constrain the application of Merge. Here, I discuss *selection*, *specifier requirements*, and *EPP features*. Selection refers to the property of roots and functional heads that restricts what categories and lexical items they can take as their complement. For instance, the functional head Voice can merge with a phrase headed by v (a vP), as in (24a), but not with one headed by T (a TP), as in (24b). These facts can be encoded as selectional properties of the Voice head. I do not formalize selection here—see Adger (2003), Bruening (2013) and Merchant (2019) for some recent discussion and formalizations of selection in a minimalist context.[11]

(24) **Voice selects v, not T**

a.


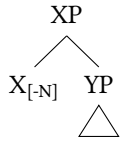
b.


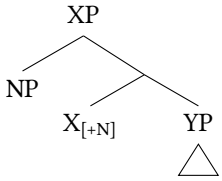
While selection restricts what a given functional head may take as its complement, specifier requirements determine whether a functional head may take a specifier, and what category that specifier may be. I follow a recent proposal by Kastner (2016, 2020), and assume that functional heads are specified in one of three ways: they either *must* have, *can* have, or *cannot* have a specifier (all specifiers considered here are written as 'NP'). I notate these possibilities as follows: if a head has a [-N] diacritic, that means that it *cannot* have a specifier; if a head as a [+N] diacritic, then it *must* have a specifier; and if a head has a [ ] diacritic, that means that the syntax does not care whether it takes a specifier or not. The four syntactic possibilities for the three possible specifier requirements of 'X' are shown in (25).

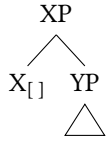
10. The operation Merge in fact has various more-precise definitions, e.g. Collins and Stabler (2016). My aim in this section is to give a intuitive sense rather than formal definition of how syntactic structure is built.

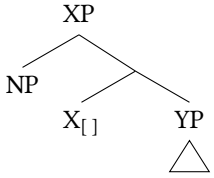
11. I also do not distinguish c(ategory)-selection from l(exical)-selection here.

(25) **Possible syntactic structures for $X_{[-N]}$, $X_{[+N]}$ and $X_{[\ ]}$**

a.


b.


c.


d.


Note that while some authors have made productive use of the possibility that different heads might take specifiers of different *categories* (e.g. one head might have a DP requirement, another a ϕP requirement, cf. Legate 2014), this possibility is set aside here.

I also assume that syntactic structure-building is constrained by EPP features—these are features of functional heads that force a constituent to move into their specifier from a position within their c-command domain. EPP-driven movement must respect Relativized Minimality (Rizzi 1990)—that is, only the closest movement-eligible XP may move. Movement, EPP features and Relativized Minimality become relevant when discussing movement of arguments to the subject position, in chapters 2, 5 and 6.

In chapter 5 I propose a further constraint on syntactic structure-building, which is *licensing*. Licensing holds between certain functional heads and arguments, and has the effect of preventing that argument from undergoing movement to the subject position. Much Minimalist syntax makes use of operations of *Agree* and *Case-licensing* to constrain syntactic structure-building in this way. And while Agree and case-assignment (small 'c') are clearly present and operational in Choctaw, they appear to be purely morphological operations, and do not drive or constrain the syntactic derivation. Instead I argue that only licensing, which is divorced from Agree and case-assignment and takes place in the Narrow Syntax, affects the possibilities for syntactic movement. Agreement and case-assignment are discussed in §1.3.3, while the discussion of licensing becomes relevant in chapter 5.

The analysis of Choctaw presented in thesis also requires the existence of at least two locality domains. One is the finite clause, a.k.a. the 'CP phase'. Verbs cannot agree with NPs outside of their finite clause, and allomorphy or allosemy cannot be conditioned across clause boundaries. Another relevant locality domain is the extended projection of the verb root. This is like the classic 'vP phase' (Chomsky 2001), although, for the purposes considered here, it is relevant mainly as the domain across which roots can make demands of their surrounding syntactic structure (either by selection, or by conditioning allomorphy (§1.3.4) or allosemy

(§1.3.5)). I do not take a position on whether verbs can agree across the boundary of this phase, since the morpheme order of Choctaw makes it difficult to tell whether the 'verb' is realized in the lower phase, the higher phase, or has its morphemes distributed across both phases.

Two final points are worth clarifying. Firstly, I am mostly agnostic on the role of syntactic head-movement in my analysis. I propose in §2.5 that syntactic head movement is responsible for getting some of the morphemes within the verb complex into the right order. But there are various alternative analyses on the market that would do the job, including *lowering* (Arregi and Pietraszko to appear), *amalgamation* (Harizanov and Gribanova 2019), *coalescence* (Hsu to appear), and others. Secondly, I assume, for convenience, that syntactic structures can be linearized as head-final without additional syntactic movement (that is, I do *not* assume Kayne's 1994 *Linear Correspondence Axiom* (LCA), although likely most of the analyses here are translatable into LCA-compliant analyses). All of the trees representing Choctaw in this dissertation are drawn as head-final.

In the next section, I flesh out the particular syntax I assume for the lowest part of the clause, closest to the root. I adopt the so-called 'layering' approach to argument structure.

1.3.2 The syntax of argument structure

The approach to verbal argument structure taken in this dissertation was outlined in very broad strokes in §1.1. Essentially, the traditional 'verb' is decomposed into a root and several functional heads, and the syntactic constituents traditionally thought of as arguments of the verb are merged as specifiers of these functional heads. In this section, I describe in more detail the syntactic decomposition I assume, a version of the 'layering' approach developed over the last few decades by Chomsky (1995), Kratzer (1996), Pylkkänen (2002, 2008), Alexiadou et al. (2006), Schäfer (2007), Alexiadou et al. (2015), Harley (2017) and Kastner (2020), among others.[12]

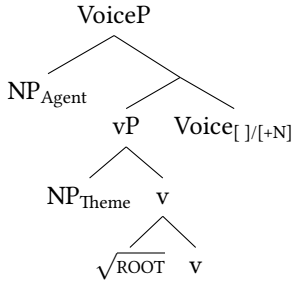
I assume that there are, essentially, three places in the extended projection of the verb root in which arguments can be merged, each being the specifier position of a different functional head: Spec-VoiceP, for external arguments; Spec-vP, for internal arguments, and Spec-ApplP, for applied arguments.[13] There are also two argument positions within the extended projection of the noun root—Spec-PossP and Spec-nP—which I briefly discuss at the end of this section.

12. Kastner (2020) positions his Trivalent analysis as a break from a certain kind of Layering analysis, while acknowledging that they share a great many syntactic assumptions.

13. The internal structure of the vP or VoiceP domain is a source of lively debate. Some researchers have proposed that it varies across languages (Pylkkänen 2002, 2008, Harley 2017), with a fairly stable (though still not universal) set of functions being distributed across functional heads in different ways. Other researchers have proposed more elaborate, cross-linguistically invariant structures (Ramchand 2008, J. Baker 2018). The flexible syntax-semantics mapping that I assume in this dissertation (§1.3.5) means that syntactic positions like Spec-vP and Spec-VoiceP need not map uniformly to a single semantic role, and so much of the need for these more elaborate structures (with different syntactic positions for different flavors of external and internal argument), is avoided.

External arguments, which can be broadly characterized as the subjects of most transitive verbs, and unergative intransitive verbs, are introduced as the specifier of Voice. This head is sometimes also known as 'little v' (I use 'v' to represent the functional head which categorizes roots as verbs, and introduces the internal argument). Two of the flagship works bringing this idea into the minimalist/generative mainstream are Chomsky (1995) and Kratzer (1996), though it is indebted to earlier work on 'VP shells' too (e.g. Larson 1988). Internal arguments, which can be characterized as the objects of most transitive verbs and the subjects of unaccusative verbs, are introduced as the specifier of a functional head v, which merges directly with the root and categorizes it. Thus the syntactic structure for a prototypical agent-subject transitive verb is given in (26). This structure is the same as in (1), except it is now uniformly head-final, in keeping with how Choctaw is linearized.

(26) **Syntax of agentive transitive verb (head-final)**

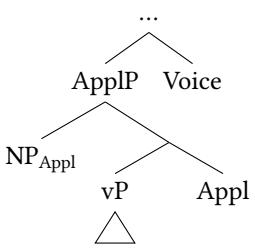


I do not engage here with the question of whether the $\sqrt{\text{ROOT}}$ is a complement to v or an adjunct to it (though my trees are drawn as though the root is adjoined). I refer to the internal argument as a *specifier* of v in order to maintain parallelism across the three argument-introducing heads (Voice, v, Appl), but I don't believe the analysis would be significantly changed if NP_{Theme} was a complement to v instead.[14]

I assume a third functional head—or rather, a class of functional heads—capable of introducing arguments: Appl, following Pylkkänen's (2002, 2008) work on applicatives. Appl heads generally introduce arguments that have 'oblique' roles such as beneficiary, maleficiary, external possessor and experiencer, among others. In all of the structures in this dissertation that feature Appls, Appl selects vP and is selected by Voice, as in (27)—that is, it functions as a *high* applicative. Choctaw may also have low applicatives, but they do not feature prominently here. Although I propose in chapter 5 that Choctaw has an array of syntactically-distinct Appl heads rather than just one, for the rest of this discussion I will refer to the whole class as just 'Appl' or 'the Appl head'.

14. Some authors have proposed that internal arguments merge directly with the root, forming a $\sqrt{\text{ROOT}}$P, instead of forming a vP with v (Harley 2014). Others assume that root-merged and v-merged objects arguments are both possible, in different syntactic or semantic circumstances (Embick 2004a). Allowing root-merged objects would not change any major components of the analysis in this dissertation.

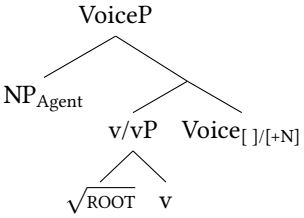
(27) **High applicative**



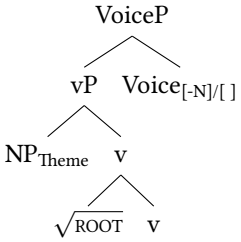
Of the three possible argument-introducing heads in the extended projection of the verb, Voice and v each come in both specifierless ([-N]) and with-specifier ([+N]) variants (setting aside underspecified ([ ]) heads for the moment). Only Appl *necessarily* introduces an argument as its specifier (that is to say, it lacks a [-N] or [ ] variant).[15] Specifierless v and Voice are schematized in the two intransitive structures in (28): v may be argumentless in, for instance, unergative verbs, as in (28a), and Voice may be argumentless in non-active verbs, as in (28b). In trees like (28), where the head and maximal projection of v are the same node, I label that node 'v/vP'.

(28) **Two intransitive syntactic structures**

a.



b.



Note also that, of three argument-introducing heads in the extended projection of the verb, only v is obligatory for all verbal roots. Appl is obligatory only for certain dative-subject verbs and psych verbs (see chapter 5). And while Voice is obligatory for *most* verb roots, including most non-active and other external-argument-free structures as in (28b), I argue in chapter 3 that there is a class of stative non-active verbs that lack a Voice layer.[16] See Schäfer (2007) and Alexiadou et al. (2015), for discussion of the idea that the presence vs. absence of a Voice layer in external-argument-free syntactic contexts is determined in part by properties of the root.

The picture thus far is that the arguments of the traditional 'verb' are in fact arguments of functional heads in the extended projection of a root—Voice, v and Appl. These heads may be projected even when they do not introduce a syntactic argument as their specifier. This leads to a fairly fundamental question:

15. Wood (2015) has proposed a specifierless Appl for Icelandic, but this plays no role in this thesis.

16. In this way, my analysis follows Alexiadou et al.'s (2015) Layering analysis, and diverges from Kastner's (2020) Trivalent analysis.

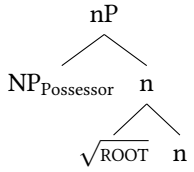
how do roots 'choose' which syntactic structures they can slot into, and which they cannot? That is, how do roots exert control over (a) which functional heads are merged in their presence, and (b) which of these heads introduce arguments as their specifiers and which do not?

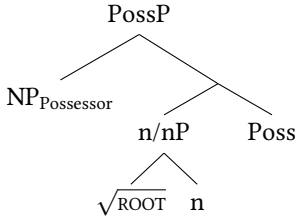
I assume the answer lies partly in the (narrow) syntax, and partly at the interfaces. Within the syntax, roots can make arbitrary demands of their surrounding syntactic structure via *something like* selection. For instance, roots can demand that a $\text{Voice}_{[\text{-N}]}$ or $\text{Voice}_{[\ ]}$ head is merged with vP, even when there is no external argument. This is simply an arbitrary syntactic fact. Note that the control exerted by the root over its surrounding syntactic structure cannot be characterized as a 'regular' selection relation between v and the root, because the root's influence can extend to Voice, past its immediately-adjacent head (v) and potentially past an intervening Appl head too. I do not have much to add on the exceptional 'selection-like' properties of roots—see the discussion in §3.2.1 and the references cited there for more on this issue.

The interfaces have a role to play too. For instance, I follow Alexiadou et al. (2006) in assuming that certain roots (e.g. English $\sqrt{\text{MURDER}}$) encode agentivity, meaning they must be merged in a syntactic structure that allows an agent to be introduced. Another way in which roots can exert influence over their surrounding syntactic structure is a particular consequence of allowing syntactically-underspecified ('[ ]') functional heads into the ontology. Essentially, roots can condition the interpretation of nearby functional heads. This applies to underspecified heads too, and as a consequence these heads may be forced by roots to have particular interpretations, which will in turn force them to either *have* or *lack* a specifier, despite their syntactic underspecification. This mechanism for how a root can control its surrounding syntax is elucidated in detail in chapter 3.

Before concluding the discussion of the syntax of argument structure, I will briefly discuss the two functional heads which may introduce arguments within the extended projection of the *noun*. Following Tyler (to appear), I assume that inalienable possessors are introduced in the specifier of n, the categorizing head that merges with the nominal root. Alienable possessors, by contrast, are introduced in Poss, an optional category that merges with nP in order to introduce a possessor (cf. Szabolcsi 1994, Alexiadou 2003). The syntactic structures of an inalienably-possessed and alienably-possessed noun are schematized in (29) (I ignore for now whether there is higher functional material within the noun phrase—see §2.6.1 for discussion).

(29) **Merge sites for possessors within NP**

a. 

b. 

The internal structure of noun phrases, with a particular focus of the status of possessors, is fleshed out in §2.6.1.

Having introduced the syntactic analysis of verbal argument structure, I now turn to the architecture underlying 'argument-marking', which encompasses case, agreement and clitic-doubling. Argument-marking straddles syntax and morphology: clitic-doubling can be shown to have interpretative effects and must therefore partly reside in the syntax. Agreement and case-assignment, by contrast, comprise the earliest stages of the postsyntactic, morphological derivation.

1.3.3 Argument-marking in syntax and morphology

In this section I outline my assumptions about the formal systems that underlie nominal case-marking and verbal argument-indexing in Choctaw: clitic-doubling and case-assignment. Clitic-doubling is a special kind of movement operation that takes place in the syntactic derivation; case-assignment is a postsyntactic operation, which takes place in the earliest stage of the morphological derivation, and involves a functional head transferring a [CASE] diacritic (more precisely, a *value* for case feature) to an argument. I discuss clitic-doubling and case-assignment in turn. I then briefly discussion of the role of *Agree* (Chomsky 2000, 2001). While some approaches have Agree as a precondition for *all* movement (including clitic-doubling) and for case-assignment, I assume that Agree, clitic-doubling and case-assignment are all dissociated. Agree is a *not* a precondition for movement or clitic-doubling.

Descriptively, clitic-doubling is when a NP argument is indexed by a clitic pronoun in a higher (c-commanding) position in the clause. A defining property of a clitic-doubling pattern (which distinguishes it from a clitic pronoun pattern) is that the full NP and the clitic may appear together. Classic examples of clitic-doubling come from languages like Rioplatense Spanish (30a) and Greek (30b).

(30) **Clitic-doubling**

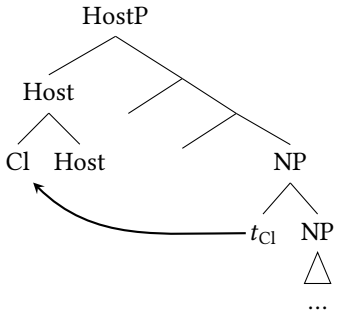
a. **Lo** vimos a Juan.
CL.ACC we.saw to Juan
'We saw Juan.' (Rioplatense Spanish, Jaeggli 1982:32)

b. **Ton** idame to Giorgo.
CL.ACC we.saw the.ACC George
'We saw George.' (Greek, Dimitriadis 1999:(2a))

It is not trivial to distinguish a verb-adjacent argument-doubling clitic from a verbal agreement affix, and various fine-tuned syntactic, semantic and morphological tests have been proposed for teasing them apart (Anagnostopoulou 2003b, Preminger 2009, Rezac 2010b, Nevins 2011, Kramer 2014, Harizanov 2014, Baker and Kramer 2018, Tyler 2019b, Yuan to appear, among others).[17] In Tyler (2019b) I invoked some of these tests to provide evidence that (most) argument-indexing morphemes in Choctaw are clitics rather than agreement forms, but for the purposes of this dissertation I simply assume that they are.[18] Here, I briefly spell out some assumptions about how clitic-doubling works in the syntax.

I adopt a simplified analysis in which clitic-doubling is a kind of syntactic movement (or at least involves a movement step). The clitic ('Cl') moves from the NP it doubles to a host head on the clausal spine ('Host'). There the clitic forms a complex head with its host. In the structure in (31), the clitic is base-generated as an adjunct to the argument it doubles, before moving out to its host head.

(31) **'Big DP' analysis of clitic-doubling**



Movement analyses of clitic-doubling wherein a clitic moves from a position inside the NP it doubles are known as 'Big DP' analyses, on which see Torrego (1992), Uriagereka (1995), Cecchetto (2000), van Craenenbroeck and van Koppen (2008), Arregi and Nevins (2012), among others. Similar analyses which involve movement in a somewhat different way are Sportiche (1996), Roberts (2010), Harizanov (2014) and Yuan (to appear). One of the key benefits of adopting a movement analysis is that it forces the NP and the clitic that doubles it to *match* in features. This includes case features and ϕ-features, which are assumed to hold uniformly across movement chains.[19] Regarding the other syntactic properties of clitic-doubling, I remain

17. Ostrove (2018) provides a valuable state-of-the-art summary of clitic vs. ϕ-agreement diagnostics.

18. The clitic vs. agreement status of verbal argument-indexing morphemes in Choctaw is discussed in more detail in Broadwell and Martin (1993), Woolford (2008, 2010) and Tyler (2019a,b), with each author coming to different conclusions.

19. Feature-matching between an NP and its clitic can be derived in other ways. For instance, Suñer (1988), who does *not* assume a movement analysis, argues for a separate Matching Principle to force clitics and the NPs they double to carry (some of) the same features.

agnostic. This includes the syntactic category of the clitic (often assumed to be a determiner), the nature of the movement relation (e.g. 'long' head movement vs. full NP movement with reduction-to-clitic), and what the relevant property of the host is such that clitic-doubling is triggered, rather than 'regular' movement of the whole NP.

Having established some basic assumptions about clitic-doubling, which takes place in the syntax, we can now turn to case-assignment, which takes place in the morphological branch of the derivation.[20] I assume that case-assignment involves the establishment of a case-assignment relation between a functional head and a NP, and a transfer of a particular value for a [K] (case) feature from the functional head to the NP. Functional heads can only form case-assignment relations with an NP if three conditions are met.

Firstly, the NP must have a [K] feature. The [K] feature is the case-receiving 'equipment' that allows some constituents to get case values. Secondly, there must be a *case-assignment rule* which forces a functional head to attempt to assign case. One such rule, which forces the head 'Voice$_{[+N]}$' to assign an [ERG] value, is given in (32).

(32) **Case-assignment rule**

Voice$_{[+N]}$ → Assign [ERG]

Not all functional heads are covered by such rules, and as a result many functional heads do not assign case (for instance, some Appl heads do not assign DAT case, cf. chapter 5).

Thirdly, functional heads can only assign case to the structurally-highest NP in their phrasal projection.[21] What this means intuitively is that a functional head will first attempt to assign case to its specifier. Then, if it has no specifier, it will assign case to the closest argument that it c-commands.[22] The case-assignment relation I assume here is very similar to the relation established by the traditional minimalist Agree operation (Chomsky 2000, 2001). However, unlike minimalist Agree, case-assignment here has a slightly different search space (the 'm-command' rather than c-command domain). Furthermore, case-assignment here takes place in the morphological component of the grammar, rather than in the syntax, and serves no role in *licensing* NPs (licensing instead has a specialized usage in this dissertation, elucidated in chapter 5). I discuss the role of Agree at the end of this subsection.

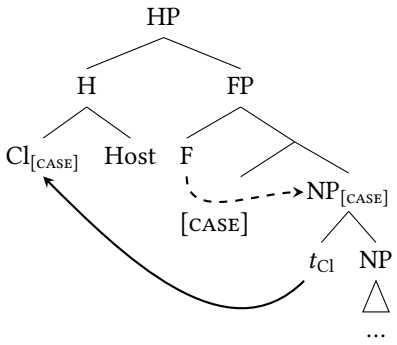
20. In this respect, the analysis of case-assignment presented here follows the *dependent case* tradition (Yip et al. 1987, Marantz 1991/2000, McFadden 2004, Baker 2015). However, the particular postsyntactic mechanisms involved in case-assignment here are different from those in the dependent case tradition, and are more like those in a traditional minimalist probe-goal model of case-assignment.

21. Another way to think of this is that a functional head can only assign case to the highest NP in its *m-command* domain (Chomsky 1986).

22. Much syntactic literature that deals with the formation of case and agreement dependencies proposes that there are situations in which an argument may be rendered invisible to the functional head, and may be 'skipped over' when the functional head is seeking an argument to form a dependency with. I remain agnostic on this possibility - it is not relevant for the analysis of any of the Choctaw phenomena in this dissertation.

Regarding the interaction of case-assignment and clitic-doubling, I assume that it is possible for a low case-assigner F to assign case to a NP that is clitic-doubled to a host H higher in the clause. This configuration is illustrated in (33).[23]

(33) **Case-assignment to NP which moves above assigner**



The case of the argument may be expressed on the clitic, as well as its NP associate. A configuration like this, where case assigned low is expressed on high-up clitics, is exemplified by the Southern Greek sentences in (34).

(34) **Case of clitic matches case of argument**

a. **Ton** idame to Giorgo.
CL.**ACC** we.saw the.ACC George.ACC
'We saw George.'

b. **Tou** egrapsa tou Giorgou.
CL.**GEN** I.wrote the.GEN George.GEN
'I wrote to George.' (Southern Greek, Dimitriadis 1999:(2a,3a))

Having case-assignment be a postsyntactic operation governed by rules like that in (32) opens up an interesting analytical option, which I alluded to in §1.1. I propose in chapters 3 and 4 that case-assignment rules may be sensitive to the syntactic context around the case-assigning functional head. So the same functional head may exhibit different case-assignment behavior in different contexts. For example, in chapters 3 and 4 I propose that the case-assignment rule in (35b), repeated from (32) is sometimes overridden by the more specific rule in (35a), which has the effect of *blocking* the assignment of an [ERG] value to the causee in a causative construction.[24] The structures to which these rules apply are elaborated in §3.2.3.

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23. That is not to say that clitics are *always* invisible to case-assignment—just for the configurations considered in this dissertation. Various analyses have been proposed in which the clitics themselves are involved in the computation of case (two very different versions of this idea are Baker 1996 and Yuan 2020). Indeed, all analyses of *Kayne's Generalization* (Jaeggli 1982) make use of the idea that clitic-doubling affects the distribution of case features within a clause.

24. This mechanism is not all that different from analyses of case alternations such as Wood (2015:129), in which a postsyntactic *impoverishment* rule can eliminate a case-assignment feature from a functional head.

(35) **Case-assignment rules for Voice$_{[+N]}$**

a. Voice$_{[+N]}$ → Ø (do nothing) / __ Voice

b. Voice$_{[+N]}$ → Assign [ERG]

See §3.8.2 and §4.6 for discussion of these rules and some others like it, in which the case-assignment properties of functional heads are contextually-conditioned by both nearby functional material and nearby roots.

As a final remark on case-assignment, note that this is likely not full extent of the mechanisms we need to capture case-assignment patterns, even just in Choctaw. In chapter 6, I discuss 'double nominative' configurations, and show that we need to admit the possibility of case-assignment from a single head to multiple NPs (along the lines of Hiraiwa 2001).

Before moving onto a discussion of the rest of the morphological derivation, in §1.3.4, a word is in order on agreement, and the operation *Agree*. Neither notion plays a major part in the analysis of Choctaw outlined here. Agreement does not feature in this dissertation in a large way because, in my analysis, almost all of Choctaw's argument-indexing morphemes are clitics rather than agreement affixes. See §2.5.1 for discussion of Choctaw's lone agreement morpheme, the 1SG ERG suffix *-li*. The operation of Agree does not play a large role here either. When Agree was first introduced into the Minimalist ontology by Chomsky (2000, 2001), the idea was that it would create a syntactic relation between a probe P and a goal G that, in addition to permitting the transfer of G's features to P, was also a necessary precondition for movement of G to the specifier of P.[25] Since clitic-doubling involves syntactic movement, many analyses of clitic-doubling assume that clitic-doubling of an NP to a host H is contingent on the establishment of an Agree relation between H and the NP (e.g. Harizanov 2014, Kramer 2014, Baker and Kramer 2018, Yuan to appear).[26] However, an alternative recent viewpoint, common within the dependent case tradition, is that movement (and therefore clitic-doubling) is *not* contingent on an Agree relation. Rather, Agree takes place in the postsyntactic morphological derivation, *following* case-assignment (Bobaljik 2008). Under such a model, clitic-doubling could not plausibly be contingent on an Agree relation, because clitic-doubling precedes Agree.[27]

I adopt this latter option: Agree is a purely-morphological operation similar to case-assignment, except that the transfer runs in the other direction. Where case-assignment transfers a feature value ([CASE]) from

25. The precursor to Agree, 'Move F' (Chomsky 1995), could involve either the movement of a whole XP to a head H, or the 'movement' of some features of the XP to H, which was later reconceptualized as Agree.

26. 'Two-stage' analyses of Agree hold that an Agree relation is established between a head and an XP it c-commands within the syntactic derivation. Then, at a later stage in the morphological component, the actual transfer of features takes place from the linked head to the XP (van Koppen 2007, Arregi and Nevins 2012, Atlamaz and Baker 2018, Kalin 2020, a.o.). In such an analysis, clitic-doubling could still depend on the establishment of the initial syntactic Agree relation (this is indeed what Arregi and Nevins argue for). Therefore, for present purposes, I do not distinguish two-stage approaches from straightforward syntactic approaches to Agree.

27. Preminger (2011, 2014, 2019) proposes a kind of hybrid view: Agree takes place in the syntax, is *not* a general precondition for movement, but *is* a precondition for clitic-doubling.

a functional head to a NP, Agree transfers feature values (usually ϕ-features) from a NP to a functional head. There is no Agree in the syntax, and movement (including clitic-doubling) can occur in the absence of Agree.

Speaking in general terms, this model of Case/case-assignment and Agree/agreement is quite different from the traditional Minimalist conception of those ideas. Case-assignment and Agree here serve no role in either driving or constraining syntactic structure-building. An NP does not need to be assigned case in order to be 'licensed', nor does it need to be in an Agree relation. Caseless NPs and NPs that have not been Agreed with do not cause crashes at the interface. Likewise, functional heads that are specified to assign case values or establish Agree relations need not discharge those duties, in the absence of a suitable NP to form a relation with. Agree and case-assignment are both, in the words of Preminger (2011, 2014), 'fallible' operations.

Now we have established what happens at the earliest stages of the morphological derivation—case-assignment and Agree—we can move onto the rest of the morphological derivation. Then in §1.3.5 I turn to the interface with semantics.

1.3.4 Morphology

The morphological architecture I assume in this dissertation draws mainly on *Distributed Morphology*. This is a model in which the output of the syntactic derivation constitutes the input to morphology. The starting syntactic structure is then manipulated in various ways to provide an output that is legible to phonology. Crucially, all morphological operations, including the insertion of phonological material at terminal nodes, *follows* the construction of the syntactic structure—i.e. it is a morphological *Late Insertion* model. For the purposes of this dissertation, the relevant syntax-manipulating operations are *agreement* and *case-assignment* (which were discussed in §1.3.3), and *Dissociated Node Insertion*. Following these, the process of inserting phonological content at terminals is known as *Vocabulary Insertion*, and the material that is inserted is a *Vocabulary Item*. I describe Dissociated Node Insertion first, then Vocabulary Insertion. [28]

Dissociated Node Insertion (DNI) is a mechanism by which an additional terminal node is introduced into a syntactic structure (Halle and Marantz 1993, Embick 2000, Choi and Harley 2019). It applies to a syntactic constituent and 'sprouts' another terminal onto it—Choi and Harley give it the intuitive name 'node-sprouting'. DNI is commonly employed in analyses of 'ornamental' morphology (a famous example is Romance theme vowels, cf. Embick and Noyer 2007). Of particular relevance here, DNI is also often

28. There are a number of other processes in the Distributed Morphology canon, which take place both before and after Vocabulary Insertion. Examples include *Impoverishment* and the application of *readjustment* rules. Since neither of these make an appearance in the analysis of Choctaw in this dissertation, I do not discuss them here. See Bobaljik (2017) for a recent overview of operations in Distributed Morphology.

employed in morphological analyses of case and agreement. I illustrate DNI with a fragment of the analysis of Choctaw case-marking in chapter 6.

I assume values of a [K] (case) feature are transmitted to their host argument during the earliest part of the morphological derivation (this is 'case-assignment', cf. §1.3.3). In chapter 6, I propose that DNI rules 'sprout' a K head onto some XPs whose head carries a [K] feature (see §2.6.1 for my assumptions about NP structure in Choctaw). The rule that sprouts a K onto DemP is shown in (36)—note that the linear order of the terminals is important here.

(36) **Dissociated Node Insertion rule**

$\text{DemP}_{[\text{K:}\alpha]} \rightarrow$ DemP

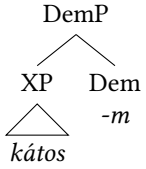
DemP $\text{K}_{[\alpha]}$

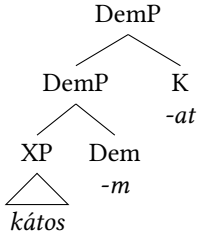
Thus the input syntactic structure in (37c) will become the structure in (37d), following the application of the rule in (36).

(37) **Dissociated Node Insertion at DemP**

a. kátos-m-
cat-DEM-

b. kátos-m-**at**
cat-DEM-**NOM**

c.


d.


Let's now turn to Vocabulary Insertion, the operation which equips syntactic terminals with phonological content. Vocabulary Insertion applies to one terminal node at a time, and the material that is inserted is determined by rules which are sensitive both to the features of the terminal *and* to its immediate syntactic context. By way of example, consider the English past tense.

The most general rule inserts *-d* at a T terminal carrying a past tense feature, as in (38c). But there are also some Vocabulary Insertion rules conditioned by particular roots, in (38a-b), which supersede the general rule (I assume that some version of the Subset or Elsewhere Principle holds; Kiparsky 1973, though I remain agnostic on whether extrinsic rule ordering and optionality are also possible).

(38) **Vocabulary Insertion rules for English past tense**

a. $\text{T}_{[\text{Past}]} \leftrightarrow$ *-t* / $\{\sqrt{\text{BEND}}, \sqrt{\text{MEAN}}, \sqrt{\text{DREAM}}, \ldots\}$ __

b. $\text{T}_{[\text{Past}]} \leftrightarrow \emptyset$ / $\{\sqrt{\text{RUN}}, \sqrt{\text{SINK}}, \sqrt{\text{READ}}, \ldots\}$ __

c. $\text{T}_{[\text{Past}]} \leftrightarrow$ *-d*

In this way, a single terminal may be exponed as various different Vocabulary Items, depending on its morphosyntactic environment—this is the DM implementation of *contextual allomorphy*.

Syntactic *phases*, discussed in §1.3.1, play a role in the morphological derivation too. Specifically, I assume that the maximal domain for conditioning the insertion of a Vocabulary Item at a terminal is the phase containing that terminal (including the phase head). In practice, this prevents anything outside of the lowest VoiceP from conditioning the realization of the root, and it prevents the root from conditioning the realization of any terminal outside its minimal VoiceP.[29]

In the next part of this section, I argue that we find a similar one-to-many mapping, with similar locality restrictions on contextual conditioning, at the interface between syntax and *semantics* too.

1.3.5 Semantics

Like the morphological branch of the grammar ('PF'), the semantic branch ('LF'), which maps syntactic structures to semantic denotations, can also be divided into stages.[30] The first stage involves supplying each syntactic terminal with a denotation, and the second stage involves combining the denotations of syntactic sisters together, working up the tree until the root (topmost) node has a denotation. I discuss these stages in reverse order, so I start with semantic composition. I then discuss the first stage, wherein I make use the concept of *contextual allosemy*—the semantic equivalent to contextual allomorphy at Vocabulary Insertion, discussed in the previous subsection. Note that I do not go very deep into the formal system here, and I assume without argument Neo-Davidsonian event semantics as it is implemented in Kratzer (2000).[31] I instead attempt to outline how the system works in an intuitive way, by providing small pieces of semantic derivations for bits of trees that come up again later in the dissertation.

I assume the four semantic composition rules assumed by Wood (2015)—Functional Application, Event Identification, Predicate Conjunction and Function Composition. I refer the reader to that book for a more complete and formal exposition of each of the rules.

The simplest semantic composition rule I assume is Functional Application (Heim and Kratzer 1998).

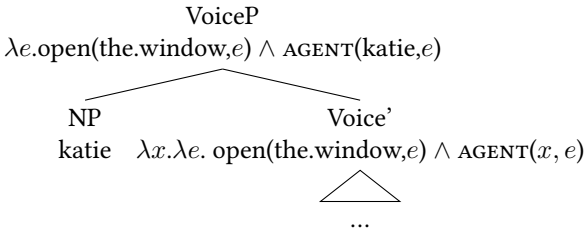
29. There are a plethora of proposals about locality restrictions on possible allomorphy (Bobaljik 2012, Moskal 2015, Merchant 2015, Choi and Harley 2019). In order to see how well they apply to the Choctaw data, it would be necessary to make certain assumptions about head-movement within the verb complex that I am not willing to commit to at this stage (see §2.5). However, note the phasal restriction on allomorphy proposed here is *more* restrictive than the proposals of Choi and Harley (2019) and Merchant (2015).

30. There are likely more LF operations than those I discuss here. One commonly-assumed operation is quantifier raising. And Ingason and Sigurðsson (2020) argue for an LF operation that is analogous to DNI at PF. I restrict my attention to those LF operations which feature in this thesis.

31. One potentially-important aspect of Kratzer's system, which I implement without exploring further, is that 'theme' is not a uniform thematic role in the way that 'agent' or 'beneficiary' are. Theme arguments are instead arguments of a predicate introduced by the root (e.g. open(x, e)). This makes themes categorically distinct from other roles such as 'agent', which are taken to be arguments of root-independent semantic predicates like AGENT(x, e).

Where the denotation of one syntactic node is a function, and the denotation of its sister node is in the domain of that function, Functional Application applies and produces something in the range of that function. This process is schematized in a typical scenario in (39), where there is an unsaturated agent role in the denotation of Voice', which can be saturated by the denotation of the NP in Spec-VoiceP. The NP has a denotation of type e (the proper name *Katie*), its sister node Voice' has a denotation of type $\langle e, \langle s, t\rangle\rangle$, and so Functional Application takes place and the mother node VoiceP ends up with a denotation of type $\langle s, t\rangle$ (I omit type notation from the tree, to reduce visual clutter).

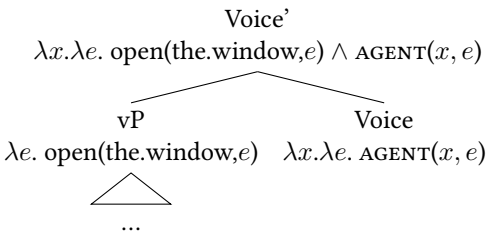
(39) **Functional Application**



One kind of denotation for functional heads, which recurs throughout this dissertation, is an *identity function*, which I notate as 'Ø'. When a functional head has the denotation 'Ø', the denotations of its mother and sister nodes will be identical. Identity functions combine with their sister, vacuously, through Functional Application.

The next composition rule I adopt is Kratzer's (1996) *Event Identification* rule, which allows semantic predicates which introduce thematic roles (e.g. the denotations of Voice or Appl heads) to be identified with the same event as the root. The two daughter nodes of the Voice' node in (39) are shown in (40)—the denotation of Voice' comes about by combining Voice with vP via Event Identification.

(40) **Event Identification**



Two other semantic composition rules are necessary for this dissertation: Predicate Conjunction and Function Composition. Each rule has a precedent in the literature, but they are each employed just once in this dissertation. As a result, I delay full exposition of each rule until it is necessary: Predicate Conjunction accounts for a special 'extra effort' interpretation found with non-valency-increasing causatives in §3.4.4, and

Function Composition allows a thematic role to be introduced low in a syntactic structure but saturated by an NP introduced high, in §5.5.3.

Let's now consider how the denotations of syntactic terminals are determined in the first place, before they are combined. The 'traditional' picture is that each syntactic terminal has a single, invariant denotation—this assumption is key to much of the work in the 'flavors of v' tradition (Cuervo 2003, Folli and Harley 2005). If it seems like the interpretation of a single syntactic terminal can vary, then, so the theory goes, we are dealing with different terminals. The model I adopt here, however, holds that the LF branch of the derivation is a bit more like the PF branch, in that individual syntactic terminals may have more than one possible denotation. Just as terminals can have multiple allomorphs at PF, so too can they have multiple 'allosemes' at LF. The insertion of particular allosemes may be conditioned by the syntactic and semantic context surrounding the terminal, just as morpheme insertion at a terminal is conditioned by that terminal's morphosyntactic context.

By way of example, consider the argument-introducing Voice head. In addition to introducing an open agent role, which relates an individual to a (dynamic) event, it must also introduce, at least, a *state holder* role, which relates an individual to a state (Kratzer 1996). In Kratzer's original setup, each of these roles is associated with a different Voice head (later known as different 'flavors' of Voice or v). However, the way Wood (2015) analyzes it, they are different allosemes of a single Voice head. The agent alloseme is inserted when the complement of Voice is a dynamic event; the holder alloseme is inserted when the complement of Voice is a state. Wood's (2015:30) alloseme insertion rules for Voice are given in (41).[32]

(41) **Contextual allosemy of Voice (Wood 2015:30)**

a. $[\![\text{ Voice }]\!] \leftrightarrow \lambda x_e.\lambda \text{e}_s.\ \textsc{agent}(x, e)$ / _ (agentive, dynamic event)

b. $[\![\text{ Voice }]\!] \leftrightarrow \lambda x_e.\lambda \text{e}_s.\ \textsc{holder}(x, e)$ / _ (stative event)

These rules show the interpretation of a terminal being conditioned by surrounding functional material (terminals' interpretations may be conditioned by nearby roots too).

This sort of approach nicely captures two things. Firstly, it allows for the simple encoding of consistent ambiguities in functional material: certain functional heads systematically change their denotation depending on their syntactic and semantic environment (the Voice head being a good example of this), but this difference is not exploited by selection, agreement, case-assignment, exponence or any of the other mechanisms in morphosyntax by which we distinguish categories of things. Secondly, it avoids a proliferation of syntactically and morphologically-identical functional heads, which differ only in their denotation. This benefit is summed up by Wood and Marantz (2017): 'Once syntactic heads are absolved from the necessity of

32. Wood also proposes that there is an identity function ('Ø') alloseme of Voice, which I omit here.

carrying certain features relevant to their interpretation explicitly—when the features are rather computed contextually at the point of semantic interpretation—we can develop a sparse inventory of functional heads for the syntax.' The 'proliferation of heads' problem is exacerbated once we observe that certain heads may show both allomorphy *and* allosemy. Without allosemy, we would end up having to posit multiple functional heads, each with a different interpretation but each with the *same allomorphy behavior*. The Choctaw non-active Voice head serves as a good example of a functional head which has multiple allosemes and multiple allomorphs—see §3.3.2.

Just as with allomorphy, I assume that there is a maximal domain for allosemy, which is coextensive with the syntactic phase (CP and VoiceP). Syntactic material merged outside of the local CP or VoiceP cannot condition the insertion of particular allosemes. This is particularly relevant in chapter 3.

On a final note, I do not assume that the denotation of a given syntactic terminal is fully deterministic: while the choice of alloseme is constrained by rules (and is also constrained by the necessity of inserting an expression that will be able to combine with its sister), sometimes the grammar will still have a choice about which alloseme to insert. For instance, in chapter 3 I show that, in the context of certain roots, the non-active $\text{Voice}_{[\text{-N}]}$ head may freely take either a lexical passive or an inchoative denotation. We can think of this as analogous to optionality in allomorph selection.

1.4 Methodology

Most the Choctaw examples presented in this dissertation come from my own fieldwork. This fieldwork consisted of over 100 interviews with several native speakers of Mississippi Choctaw ('consultants') conducted in and around the Mississippi Band of Choctaw Indians (MBCI) reservation, headquartered in Pearl River, Mississippi. The interviews took place over the course of several visits to MBCI between 2016 and 2019.

In this section, I first provide details of the fieldwork, discussing the primary methodology I employed—targeted elicitation—and some issues that arose from this technique (§1.4.1). I then discuss some of the choices made in the writing of this dissertation, regarding the balance and tension between language description and linguistic theory (§1.4.2)

1.4.1 Interviews

In this section I first describe the format of a standard interview, before describing the methods I employed in these interviews. I then discuss some issues that this kind of investigation presents, and how I did or did not deal with them.

Interviews typically lasted between 30 and 120 minutes, and would involve both targeted elicitation (described below) and, to a lesser extent, collection of monologues. Interviews would take place at speakers' homes, workplaces, or at the Philadelphia-Neshoba County Public Library. The consultant and I would both wear headset microphones connected to a Zoom H4n Pro recording device, and the entirety of each interview was recorded.

I would take notes during the interview. After each interview, I would subsequently listen to the recording of the interview and make more notes. In addition, using ELAN (computer software), I would isolate, translate and transcribe all of the whole Choctaw utterances spoken by the consultant during the interview (I generally did not isolate and transcribe partial or interrupted utterances). The individual utterances would then be extracted as individual sound files. The names of each sound file would be entered into an Excel sheet along with a Choctaw transcription and English translation. By the end of 2019 the Excel sheet contained over 15,000 transcribed utterances, 11,000 of which had matched up with English translations. I now turn to the methodology I employed during the interviews.

The main methodology employed during the interviews themselves involved asking Choctaw speakers various kinds of questions, in English, in a semi-structured, exploratory manner. The simplest kinds of question would be requests for loose translations of English words or sentences, exemplified by the dialogue in (42). 'MT' is me and 'B' is the consultant—each consultant is identified by a single letter, and some demographic information about the consultants is provided in (46), at the end of this subsection.

(42) (B_04_11_19, 27:40)

MT: Could you- how would you say "Don't worry, I'm standing next to you", "Don't worry, I'm next to you"

B: *Yohmi ish ahninnah, chi bil̲ika hik̲iyalih.*

MT: *Chi bil̲ika hik̲iyalih*, OK thanks.

Another common kind of question would be to ask the consultant if a Choctaw sentence or phrase, which I would present orally or in writing, sounded OK to them. That is, I would ask them for an acceptability judgment. Often the presented phrase would be modified in a small way from the phrase already under discussion. This is exemplified by the following dialogue, which directly followed (42).

(43) (B_04_11_19, 27:50)

MT: Could you say *chi bil̲ikalih*?

B: *Chi bil̲ikalih. Yohmi ish ahninnah, chi bil̲ikalih.* Mm-hm [affirmative].

I would often then follow this with a confirmation question, to see if the change to the form of the Choctaw would result in any kind of change to the English translation:

(44) (B_04_11_19, 27:56)

MT: And what does that mean like?

B: Same thing.

In many cases, I would provide a context for the utterance in a translation task or a judgment task, as in the following representative sample of dialogue:[33]

(45) (E_10-16-18, 14:08)

E: *Kísan at a̲ pichífatok* [The tires went flat on me].

MT: That sounds OK?

E: Mm-hm.

MT: So let's say someone had fixed your tires. So you go to the place where you got the tires and you're like "I only drove like twenty miles and these tires went flat!" Could we say *Chi̲ kísan at a̲ pichífatok* [Your tires went flat on me]?

E: [thinks]

MT: Like "Your tires went flat on me."

E: *Your* tires?

MT: Yeah, the tires you gave me, your tires, went flat on me.

E: *Chi̲ kísan at a̲ pichífatok* [Your tires went flat on me]. Yeah.

The interviews were fairly unstructured and organic, and in addition to the above questions, I would ask for comparisons between different sentences ("which of these sounds better, A or B?"[34]), I would ask speakers to put a given Choctaw word in a sentence, and I would ask speakers to think up a context in which a given sentence would be natural. Sometimes I would simply ask speakers for their thoughts on particular words or phrases.

Let's now turn to some of the issues that arise when doing this kind of fieldwork. Here, I discuss variation, issues caused by the current status of Choctaw, issues caused by the nature and complexity of the tasks, and bias introduced by me, the researcher.

One recurring issue in all fieldwork situations is that speakers will not always agree on the acceptability of a given phrase. Often Choctaw speakers would disagree with one another on the acceptability or meaning of particular expressions, and there were many instances where speakers would provide differing answers from one interview to the next. I attempted to mitigate the effects of these disagreements in two ways.

The first way of mitigating the effects of disagreement involved getting the input of multiple speakers. I aimed to have each example sentence confirmed as acceptable or unacceptable by at least three speakers. Sometimes, where there was significant disagreement about the acceptability or meaning of particular

33. This sample of dialogue also illustrates the 'messiness' inherent in fieldwork, and the many potential routes by which error might creep in. I discuss how I attempt to mitigate errors and noise later in this section.

34. I would sometimes liken the task to visiting the optometrist: "1 or 2? Or no difference? OK, 3 or 4? Or no difference?"

sentences, it was still possible to determine the (un)acceptability of the (hypothesized) underlying syntactic structure, by varying the lexical items used in the sentence. If speakers accepted different 'lexicalizations' of the (hypothesized) same syntactic structure, then I could assume that (a) the underlying structure is indeed available for Choctaw speakers, but (b) it interacts with the semantics of individual lexical items, which show a lot of speaker-to-speaker variation. And sometimes, speakers would indeed systematically disagree with one another on properties of Choctaw syntax that, to my mind, could not be reduced to differences in lexical semantics.[35] Those cases I treated as 'true' variation in speakers' grammars.

The second way of mitigating the effects of speaker disagreement was to ensure that no theoretically significant claims were made on the basis of those variable parts of speakers' grammars. For the most part, the theory and analysis in this dissertation is compatible with *all* speakers' grammars (*mutatis mutandis* differences in lexical semantics). For instance, in chapter 3 I make the claim that the suffix *-chi* can be used to form lexical causatives, with certain roots. However, speakers disagree a lot on the exact set of roots with which *-chi* can form a lexical causative. As a result, I limit my claim to the fairly general statement that *-chi* is compatible with 'some roots'.

Regarding the distribution of the variation itself, speakers are attuned to dialectal variation across the different communities that make up MBCI. However, for me the most noticeable variation was across generations. At various points in this dissertation I flag differences between younger and older speakers of Mississippi Choctaw. Particularly significant differences are found in the nominal case-marking and switch-reference systems (cf. §2.7.3).

This leads us to another set of issues that arose in the course of fieldwork, these ones caused by the fact that Choctaw is an endangered indigenous American language. For one thing, all the Choctaw speakers I consulted (possibly all Choctaw speakers at the time of writing) are native bilinguals in Choctaw and English. Speakers would all use some amount English in their daily lives depending on their age, social network, employment, and attitude towards Choctaw. This bilingualism no doubt has effects on every structural level of Choctaw from phonetics to pragmatics, which I am unable to discuss here. For another thing, speakers perceive that there is a correct way to speak Choctaw, and they largely believe that they themselves speak differently from this standard. As a result, many people are uncomfortable at the idea that their individual variety should be held up as representative of the language as a whole. One particular manifestation of this effect was that speakers would often be reluctant to judge sentences as unacceptable, instead saying things like "I probably wouldn't say it like that" or "YOU could say that". I could only really attempt to negotiate this effect in an intuitive way, by phrasing the tasks carefully and by building a rapport

35. As discussed in §1.3.2, the theoretical footing of this dissertation does not make a neat distinction between syntax and lexical semantics anyway.

with the consultants.

A third kind of issue that arose related to the nature and complexity of the tasks I was asking speakers to perform. Speakers have different tolerance levels for different tasks. Some speakers enjoy grammar-focused elicitation, and would actively participate in figuring out fine-grained differences in the semantics and morphosyntax of different Choctaw expressions. Others do not enjoy these tasks and find them boring and pointless. Furthermore, as the complexity of the task increased, the number of speakers who are willing to work with it would decrease. For instance, only a small number of speakers were willing to confidently offer semantic judgments on minimally-different sentences with multiple clauses, such as those investigated in §2.7.3.

Finally, there are likely many parts of this dissertation where the data was affected by my own fieldwork technique—for instance, by asking leading questions, or by asking questions multiple times. See Bowern (2015:6) for discussion of researcher bias. Hopefully further study of Choctaw by other linguists will serve to mitigate this effect.

In addition to targeted elicitation, I also recorded a number of short monologues and dialogues, some of which have been transcribed and translated (planned work on transcribing and translating these with the assistance of consultants was cut short by the COVID-19 pandemic). However, the data from these recordings did not, by and large, make it into this dissertation.

I first sought permission from MBCI institutions to conduct the research in 2016. The project was approved first at a meeting of the Culture Committee in March 2016, and subsequently at a meeting of the Full Council in April 2016 (resolution CHO 16-031). The resolution was amended in January 2017 to allow me to present and publish my research (resolution CHO 17-018). The project was originally approved to take place through the end of 2017, and was subsequently extended through to the end of 2018, and then 2019, by two memoranda issued by the Office of the Chief. All interviewees were over the age of 18, signed an informed consent document, and were given the option of being credited for their help or remaining anonymous (interviewees who wished to be credited are thanked in the acknowledgements). They were compensated monetarily for their time. Some demographic information for each of the speakers is given in (46). Unfortunately, for most consultants, I neglected to collect information about which community they were from.

(46) **Consultants' demographic information**

Code	Age in 2020	M/F	Community/ies
A	62	M	Tucker, off-reservation
B	58	F	Bogue Chitto, Pearl River, off-reservation
C	43	M	?
D	56	F	Standing Pine
E	40	F	Bogue Chitto
F	60	F	?
G	32	F	?
H	56	F	?
I	36	F	Pearl River
J	64	F	?
K	43	M	?
L	54	F	?
M	69	F	?
N	39	F	Bogue Chitto

All of the materials produced in the course of the fieldwork—full interviews, isolated utterances, monologues and dialogues, and their transcriptions and translations—have been provided to the MBCI Language Program. I would like to archive the recordings and notes at some point in the future, so that they can be more broadly accessible, but this was not a part of the original agreement with MBCI or with individual speakers, so it will have to be a part of future work.

1.4.2 The tension between description and theory

In this dissertation I attempt to provide new descriptive generalizations about the structure of Choctaw, and to answer some questions in theoretical syntax. These goals work partly in tandem—new generalizations should inform linguistic theory, and linguistic theory guides us to where we should look for new generalizations. But the goals are also, to an extent, in tension: I have concentrated on specific areas of the language to the neglect of others, sometimes in pursuit of data that might be considered a bit 'esoteric', or at least not the most urgent from the perspctive of language documentation (e.g. the interaction of switch-reference marking with overt vs. null marking of optionally-nominative objects, cf. §6.6). And I have primarily used targeted elicitation techniques, prioritizing them over collecting monologues and narratives.

Attempting to mitigate this tension has had several effects on the dissertation. For one thing, I have tried to be as transparent as possible when making claims about the grammar of Choctaw, including documenting exceptions and possible exceptions to generalizations that I posit. This is because the 'informal peer review' available for linguists writing about more widely-spoken languages is not available for Choctaw (see Linzen and Oseki 2018 for discussion). For another thing, I have taken a 'more is better' approach when providing examples. This is partly because much in Choctaw grammar remains uncertain, and by providing multiple examples of phenomena I reduce the possibility that my analysis will be invalidated by a mis-

heard, misglossed or other erroneous example. And it is partly because I hope that others—researchers and Choctaw community members—might find the examples relevant to their purposes, in ways that I can't foresee (Mithun 2014).

Finally, I believe that the tension between the descriptive and theoretical goals of this dissertation have ultimately impacted the theoretical claims I make here. In particular, the obligation to document, in whatever detail I can, *exceptions* to generalizations, has made the status of exceptions fairly key to the syntax proposals I make. The theoretical model I build up here, in which functional heads are linked to their exponents, interpretations and case-assignment properties by exceptionable rules, is heavily influenced by the observation that while there are lots of clear generalizations about particular morphemes, particular syntactic patterns, and particular interpretations, none of them apply well across every instance of that thing.

1.5 Chapter guide

Chapter 2 provides background on the sociohistorical status, orthography, phonology, morphology and syntax of Choctaw. One goal of this chapter is to provide the reader with a bird's-eye overview of Choctaw grammar, so they can appreciate the 'macro-level' organization of the language, and some of the properties and puzzles that have particularly interested academic linguists. The second goal is to equip the reader with the necessary background knowledge of Choctaw syntax to fluently interpret the examples and argumentation used in the rest of this dissertation. Much of the syntactic analysis introduced in this chapter is assumed in subsequent chapters. Important syntactic preliminaries introduced in this chapter are: the existence of a dedicated subject position, the *non*-existence of separate lexical categories of adjective, quantifier or adposition, and the idea that Choctaw's switch-reference marking is case-marking on clauses. The chapter also provides a first-pass analysis of the organization of functional heads on Choctaw's clausal spine, and how these map to the morphophonological verb complex at the right edge of the Choctaw clause.

Chapter 3 is concerned with argument structure and its morphological and semantic correlates, within the Choctaw verb stem. In particular I focus on the alternation between active and non-active verbs (cf. §1.2.2, also called the 'causative alternation'), and causatives (cf. §1.2.3, also called 'syntactic causatives'). Active, non-active and causative verbs are each canonically associated with a suffix (*-li*, *-a*, *chi-*), and have one or two canonical argument-structure-related interpretations (e.g. for actives and causative, that interpretation is agentive causative; for non-actives, that interpretation is inchoative or passive-like). I propose that these three suffixes each expone one of three Voice heads, differentiated by their specifier requirement (cf. §1.3.1). Non-active *-a* is the exponent of specifierless $\text{Voice}_{[\text{-N}]}$, causative *-chi* is the exponent of

obligatory-specifier Voice$_{[+N]}$, and 'active' *-li* is the exponent of optional-specifier Voice$_{[\ ]}$, which explains why *-li* appears to form both active *and* some non-active verbs. Each of these Voice heads has default and contextually-conditioned morphological exponents, and they each *also* have default and contextually-conditioned interpretations. There is also a limited degree of Voice-on-Voice stacking permissible. With these building blocks in place, I derive a range of syntactic, morphological and semantic properties of Choctaw's verb stems.

Chapter 4 is focused on Choctaw's ERG-series and ABS-series argument-doubling clitics (cf. §1.2.4). I argue that arguments indexed by ERG clitics have an [ERG] diacritic (a value for their case feature), while those that are indexed by ABS clitics lack this diacritic. Typically, [ERG] is assigned from Voice to the external argument in Spec-VoiceP, explaining why it shows *almost* the distribution of an inherent ergative case feature. However, the bulk of the chapter is dedicated to showing that, with a small but robust class of verbs, the argument that receives the [ERG] value seems to be an *internal* argument instead. To account for this I argue that Voice, in the context of certain lexical and functional material, may assign [ERG] *downwards* instead of to its specifier. This account challenges several accounts of ergative (and ergative-like) morphosyntactic alignment in the generative mainstream—notably inherent and dependent accounts.

Chapter 5 concerns Choctaw's DAT-series clitics, and its applied arguments more generally, which may be indexed by DAT clitics or by ABS clitics plus an applicative prefix (cf. §1.2.5). I argue that arguments indexed by DAT clitics have a [DAT] case value, and that this case value can be assigned either from Appl or from v (on which see §1.3.2). The main empirical and theoretical contribution of the chapter, however, is about what happens when dative and other applied arguments are added to non-active verbs (those verbs which lack an external argument). I show that applied arguments split into two camps with respect to their ability to become the subject of the clause. Those applied, dative arguments that get interpreted as possessors, affected experiencers and 'engineers' (a kind of intentional indirect causer) may become the subject of their clause when added to a non-active verb—that is, they are 'A-movable'. By contrast those applied arguments that are interpreted as beneficiaries or locations, as well as all of Choctaw's non-dative applied arguments, may *not* become the subject of their clause, and will always end up as the object of the clause even when added to a non-active verb—they are 'A-immovable'. By way of analysis, I propose that the difference between A-movable and A-immovable applied arguments is whether or not the argument is *licensed* by Appl, where licensing is a syntactic relation that holds between a functional head and an argument.

Chapter 6 looks at case-marking on overt NPs, which may be marked as nominative, marked as oblique, or unmarked. I argue firstly that nominative-marked NPs are distinguished from oblique NPs by having a [NOM] case value—oblique case-marking is the exponent of the [K] feature in the *absence* of a [NOM] value.

The main theoretical point of the chapter, however, is that an NP's case value (nominative vs. oblique) should be disentangled from the presence vs. absence of an overt exponent of that case value. I show that there are different sets of rules governing the *assignment* of case values, which is calculated over a syntactic structure only, and the *realization* of case on an NP, which is sensitive to syntactic structure *and* aspects of the morphology of the clause.

Finally, the conclusion, **chapter 7**, focuses on two main consequences of the set of interlocking analyses that are built up across the whole dissertation. A single NP may bear more than one case value, and that functional heads may be underspecified in all dimensions: they may be semantically flexible, morphologically flexible, and syntactically flexible.

Chapter 2

A sketch of Choctaw syntax

In this chapter, I outline some basic properties of Choctaw. I focus on its internal, structural properties—phonology, orthography, morphology and, especially, syntax—with two goals in mind. The first goal is to provide the reader with a bird's-eye overview of Choctaw grammar, so they can appreciate the 'macro-level' organization of the language, and some of the properties and puzzles that have particularly interested academic linguists. The second goal is to equip the reader with the necessary background knowledge to fluently interpret the examples and argumentation used in the rest of this dissertation. It is *not* intended to give balanced coverage to all areas of Choctaw grammar, and many crucial issues are not given due attention. Much of the material introduced in this chapter is repeated in subsequent chapters, in service of the particular point being made.

§2.1 introduces the social and historical status of Choctaw and previous scholarship on the language. §2.2 introduces the phonology and orthography of Choctaw. Several different orthographies exist for Choctaw, and I explain my choice to use two throughout this dissertation: the Modern Orthography, increasingly widely adopted by organizations within the Mississippi Band of Choctaw Indians (though as of the time of writing, not yet fully standardized), and a version of Broadwell's (2006) Modified Traditional Orthography, which represents some meaningful contrast that the Modern Orthogrphy misses out. Various orthographic choices are determined by the choice of phonological analysis, and I accordingly discuss the orthography and phonology of parallel in parallel.

The rest of the chapter deals with syntax and morphology. Sections 2.3 to 2.5 discuss the main components of the Choctaw clause: §2.3 discusses basic clausal syntax, and provides evidence that Choctaw has a dedicated subject position; §2.4 looks at what comes between the subject and the verb, an area which I term the 'middle field'; and §2.5 dives into the internal structure of the 'verb complex', which appears at the

right edge of the clause and contains a large array of proclitics, prefixes and suffixes.

§2.6 looks at other lexical categories in Choctaw, spending time in particular on the syntax of noun phrases, but also assessing the case for some other lexical categories that have been posited for Choctaw in previous literature: adjectives, quantifiers and adpositions. I come down on the side that these apparent separate categories are really subtypes of verb. §2.7 then tackles a particularly sticky issue in Choctaw grammar, which is the class of constituents which could be reasonably analyzed as nominal *or* clausal. This class includes indefinites, *wh*-words, and many NPs with a lot of suffixal material, which I term 'complex' NPs. This final section also deals with the dual functionality of case/switch-reference morphology, which serves to further blur the boundary between nominals and clauses. §2.8 concludes.

2.1 Language status

Choctaw ('Chahta') is the language traditionally spoken by the Choctaw people, a Native American group indigenous to the southeastern United States, ranging from Louisiana to Florida. Choctaw and Chickasaw make up the Western branch of the Muskogean family, which also contains Creek (Creek-Seminole), Hitchiti, Mikasuki, Alabama and Koasati, as well as the now-extinct Apalachee. Subgrouping relations among the Muskogean languages remain controversial—see Haas (1941, 1979), Booker (1981), Kimball (1989), Munro (1993) and Martin (1994) for several different proposals, and Broadwell (2005) for discussion.

To understand the present-day status of the Choctaw language, it is necessary to look at the history of the Choctaw people at least as far back as the early 19th century.[1] By the start of the 19th century, the Choctaw people had organized into several political groupings which had control over an area of land that encompasses most of present-day Mississippi, and includes parts of Louisiana, Tennessee and Alabama. They were classed by European settlers as one of the "Five Civilized Tribes" as they had adopted various European customs, and had stable political and economic relations with European settlers.

However, owing to settlers' increasing demands for more farmland, the size of the Choctaw Nation was reduced via a series of treaties starting in 1801. In 1830 President Andrew Jackson signed the Indian Removal Act, which forcibly stripped several Native American groups of all their remaining ancestral lands in the eastern United States and displaced them to territory further west, in a journey that became known as the Trail of Tears. The chief of the Choctaw tribe, George W. Harkins, signed the Treaty of Dancing Rabbit Creek in 1830, which ceded all Choctaw lands in the southeast to the United States, in exchange for some land in Indian territory, which is now part of Oklahoma. The treaty contained a provision that if they wished,

1. The historical background in this section is sourced from an archived version of the MBCI official website (https://web.archive.org/web/20071010062645/http://www.choctaw.org/history/chronology.htm), and from Wikipedia (https://en.wikipedia.org/wiki/Choctaw)—I refer the reader to sources cited there.

Choctaw people could choose to remain in Mississippi, and would become full U.S. citizens, subject to U.S. and state law.

Around 15,000 Choctaws left Mississippi for Indian Territory, with the journey being one of exceptional suffering and hardship, claiming 2,500-6,000 lives. The descendants of the Choctaws who reached Indian territory form the membership of the modern-day Choctaw Nation of Oklahoma (known generally as Choctaw Nation), headquartered in Durant. Another 5,000-6,000 Choctaws remained in Mississippi, without self-governance. By 1910, following hardship and further removals by the U.S. government, the Choctaw population of Mississippi numbered just 1253. In 1945, the Mississippi Choctaws were able to reorganize into the modern-day Mississippi Band of Choctaw Indians (MBCI), which now counts around 11,000 members. A third federally-recognized Choctaw tribe is the Jena Band of Choctaw Indians, headquartered in Jena, Louisiana.

Today, the Choctaw language is critically endangered in Oklahoma, being spoken as a first language by just a few hundred people, out of a total population of over 200,000 enrolled tribal members. Nonetheless, some efforts are underway to revitalize and maintain the language, including documentation efforts such as 2008 NSF Documenting Endangered Languages grant, and high-school and adult education programs (see Kickham 2015 for critical discussion). In Mississippi, Choctaw is endangered, though to a lesser degree than in Oklahoma, and is spoken as a first language by a good portion of the enrolled tribal members (I cannot speculate about numbers but it is spoken in almost every community). It is an ongoing concern among many Choctaw people I have spoken to that younger generations are not speaking the language. However, since 2015 the MBCI Language Program has begun to implement Choctaw language classes in elementary schools, and various Choctaw-language programs for children have been introduced.

This dissertation is focused on the Mississippi variety of Choctaw, which is spoken in at least eight of the nine communities that make up MBCI: Pearl River (the largest community and the seat of MBCI government), Bogue Chitto, Bogue Homa, Conehatta, Crystal Ridge, Red Water, Tucker and Standing Pine. I do not know whether Choctaw is spoken in the ninth community of Henning, Tennessee, which was incorporated into MBCI in 2012. Almost all of the interviews I have conducted have been with speakers from Pearl River, Bogue Chitto and Tucker, but Choctaw people often move between communities throughout their lives.

2.1.1 Existing literature in and about Choctaw

Various works have been published in Choctaw, or about Choctaw, though much of it is over a century old. Among the earliest resources, and still among the most valuable, are Cyrus Byington's *Grammar of the*

Choctaw language (1870) and *A dictionary of the Choctaw language* (1915), both published after his death in 1868. Other 19th-century sources include two smaller dictionaries (Allen Wright 1880, Watkins 1892), Byington and Alfred Wright's translation of the New Testament (American Bible Society 1816), parts of the Old Testament (e.g. Wright 1871b,a), a hymnal (Wright and Byington 1872), a treatise on childrearing (L. S. Williams 1835), and some constitutional and governmental records (Haag and Willis's 2013 translation of Peter Perkins Pitchlynn's manuscript).

The 20th and 21st centuries saw a large increase in descriptive, pedagogical and theoretical linguistic work on Choctaw. Textbooks include Jacob et al. (1977) and Haag and Willis (2001, 2007); Broadwell (2006) is the most detailed reference grammar to date (based on his 1990 dissertation); and the Choctaw Nation of Oklahoma published a teaching dictionary with 4300 entries in 2016 (Choctaw Nation of Oklahoma 2016). Other dissertations on aspects of Choctaw grammar include Nicklas (1974), Davies (1981a), Ulrich (1986), Haag (1996). Dissertations considering social and cultural aspects of the Choctaw language include Kwachka (1982), R. S. Williams (1995) and Kickham (2015). In addition, a variety of shorter pedagogical materials have been published, including Littlejohn (1971), Downing (1971) and Sealy and Gregory (2015).

Yet despite the increase in material about Choctaw, it remains the case that very few materials have been produced in Choctaw since the 19th century, either in the form of audio recordings or texts. Haag and Willis (2001, 2007) contains several short stories and constructed dialogues, and Broadwell (2006) contains two short texts. In 2008, the Choctaw Nation of Oklahoma received a NSF-NEH Documenting Endangered Languages grant to record and transcribe stories told by Choctaw Nation elders, and eighteen stories, totaling seven hours, were recorded on audio and transcribed, with English translation. Work is also underway at the Choctaw Bible Translation Committee in Mississippi to translate the Bible into contemporary Mississippi Choctaw, and several books of the Bible have been published as pamphlets (e.g. American Bible Society 2007, 2010).[2] In 2020, MBCI was awarded a NSF-NEH grant to produce further reference materials, including audiovisual materials.

Academic scholarship on Choctaw has had a sizeable influence within theoretical linguistics, with several articles that are based (in part) on Choctaw having some degree of influence in syntax (e.g. Munro and Gordon 1982) and phonology (e.g. Lombardi and McCarthy 1991). See Fitzgerald (2016) and Broadwell (2020) for an extensive list of the contributions of Muskogean languages to theoretical linguistics. Within morphology and syntax, which is the focus of this dissertation, data from Choctaw has been brought to bear on binding theory (Broadwell 1990, 1997a), case and agreement (Davies 1981a, 1986, Broadwell and Martin

2. I have recorded a series of monologues and narratives with several speakers. I was hoping to add some of them as an appendix to the dissertation, after checking them with their speakers. However, the COVID-19 pandemic struck before I was able to start checking over them with speakers in person. I hope to be able to check and release them soon.

1993), internally-headed relative clauses (Broadwell 1985, Gordon and Munro 2017), and argument structure (Munro and Gordon 1982). In my own work, I have looked at what we can learn from Choctaw about the distinction between agreement and clitic-doubling (Tyler 2019b), the person-case constraint ('PCC') and the nature of syntactic repair (Tyler 2019a),[3] and external possession (Tyler to appear).

Note also that much of the scholarship about Chickasaw, including a very large body of work by Pam Munro (including Munro and Willmond 1994, Munro 1999, 2016, 2017, a.m.o.), is applicable to Choctaw too: the languages are close relatives and until recently were considered dialects of one another (see Munro 1987 for arguments that they should be distinguished). I will often cite work on Chickasaw when discussing phenomena in Choctaw.

2.2 Phonology and orthography

In this section I sketch Choctaw's segmental phonology (§2.2.1) and suprasegmental phonology (§2.2.2), and describe how they relate to the two orthographies employed in this dissertation—The MBCI Modern Orthography, and a modified version of Broadwell's (2006) Modified Traditional Orthography (§2.2.3).[4]

The reason for adopting two orthographies is that one—the Modified Traditional Orthography—is more appropriate for linguistic analysis (indeed it was developed for that purpose) while the other—the Modern Orthography—is fast becoming a widely-used standard within MBCI. Among other differences, the Modified Traditional Orthography places spaces at the boundaries between morphological words and encodes pitch accent information. The Modern Orthography, in contrast, includes many more spaces and does not mark pitch accents. Recall from §1.2.1 that four-line examples have the Modern Orthography first, in italics, followed by the Modified Traditional Orthography with morphemic decomposition.

(1) **Four-line example**

Ilokka ma ish i chopatok o?
ilókka-m-a ish-i-chopa-tok-o
clothes-DEM-OBL 2SG.ERG-DAT-buy-PST-Q
'Is that the dress you bought for her?' (I_08-16-17_143)

For three-line glosses, which I use for ungrammatical examples and other examples without an associated audio recording, I omit the Modern Orthography line. For Choctaw examples taken from published sources, I rewrite that example in the Modern Orthography, and flag any problems or ambiguities that arise.

3. In chapter 4 I re-examine the data in Tyler (2019a), and propose an analysis which does *not* involve repair.

4. We could describe the version of the Modified Traditional Orthography adopted here as the 'Modified Modified Traditional Orthography'.

2.2.1 Segmental Phonology

Here, I outline the segmental phonology of Choctaw and its orthographic representation. The contrastive consonants of Choctaw are presented in (2) (based on Broadwell 2006:15). Symbols are IPA except when indicated otherwise. Consonants are written the same way in both orthographies employed here.

(2) **Contrastive consonants**

p	t [t~d]	ch [tʃ]	k [k~g]	
b				
f	s	sh [ʃ]		h
m	n			
	l			
	lh [ɬ]			
w		y [j]		

Every consonant may be geminated in word-medial position. Gemination is written as a doubled consonant. Some (near-)minimal pairs distinguished by consonant length are given in (3).

(3) **(Near-)minimal pairs distinguished by consonant length**

a. *asha* ‘to sit’
   áshsha ‘mistake’

b. *ima* ‘to give’
   imma ‘theirs’

c. *ala* ‘to arrive (here)’
   alla ‘child’

Unlike some previous authors, including Ulrich (1986) and Broadwell (2006), I do *not* include the glottal stop as a phoneme of Choctaw. See §2.2.2 for discussion of the role of the glottal stop in Choctaw phonology.

The contrastive vowels of Choctaw are given in (4), with long vowels represented as separate categories. Here, the two orthographies employed in this dissertation diverge. In the Modified Traditional Orthography, long vowels are written as doubled; in the Modern Orthography, long vowels are written with an acute accent. Nasal vowels are written with an underbar in both orthographies, and are all phonetically long.

(4) **Contrastive vowels**

IPA	Modified Traditional	Modern
[a]	a	a
[aː]	aa	á
[ã]	a̲	a̲
[i]	i	i
[iː]	ii	í
[ĩ]	i̲	i̲
[o]	o	o
[oː]	oo	ó
[õ]	o̲	o̲

In the Modified Traditional Orthography, marking pitch accent (see the next section). Pitch accent is not represented in the Modern Orthography.

Choctaw syllables are generally V, CV, VC or CVC, with the set of possible codas being smaller than the set of possible onsets.[5] I refer the reader to Ulrich (1986:38-52) and Broadwell (2006:18-20) for discussion of Choctaw phonotactics. Notably for English speakers, Choctaw syllables in word-internal positions may end in *h*, as in the words in (5).

(5) **Words with syllable-final *h***

a. *yohmi* 'to do so, to happen'

b. *bohli* 'to put'

c. *Chahta* 'Choctaw'

Note also that words are often written with final *h* (indeed, the default tense suffix is *-h*). However, orthographic word-final *h* is not pronounced—its presence is justified on the basis of a more abstract analysis. This phenomenon, along with some other properties of Choctaw suprasegmental phonology, is discussed in the next section.

2.2.2 Suprasegmental phonology

In this section I discuss three issues in Choctaw suprasegmental phonology which directly impact the orthography: iambic lengthening, pitch accents, and the final glottal stop vs. orthographic *-h*.

Iambic lengthening is an obligatory phonological process by which odd-numbered vowels in sequences of short open syllables become long, thus neutralizing the vowel length contrast in these positions (Nicklas 1974, Ulrich 1986). This is illustrated in (6). As shown, some prefixes (e.g. 1SG.ABS *sa-*) are within the domain of iambic lengthening, and final vowels are excluded.

5. Broadwell (2006:19-20) documents some marginal exceptions to the general phonotactic properties of Choctaw.

(6) **Iambic lengthening**

a.	masalih	→ masaalih	'she healed'
b.	sa-masalih	→ samaasali-h	'I healed'

I follow Broadwell (2006) in representing the output of iambic lengthening in the orthography, even though it often has the effect of concealing the underlying length value of particular vowels. So, in the Modified Traditional Orthography, the words in (6) would be written as *masaalih* and *samaasalih*. See Nicklas (1974:117-121), Ulrich (1986:53-39) and Broadwell (2006:21-26) for detailed discussion of iambic lengthening.

Some Choctaw nouns have a pitch-accent, realized as a high tone. If a Choctaw noun has a pitch accent it will occur on the penult, as in (7), or, more rarely, the antepenult.[6]

(7) **Nouns with penult pitch-accent**

a.	*nípi*	'meat'
b.	*chókfi*	'rabbit'
c.	*bíhhi*	'mulberry'

For verbs, the pitch-accent serves several grammatical functions. A pitch accent added its own may nominalize the verb, as in (8), it may put it in a special kind of tense/aspect used for resultant and 'generic' states and, as in (9),[7] or it may render it suitable for attributive modification of nouns, as in (10).[8]

(8) **Pitch accent as a marker of nominalization**

a.	*hilhah*	'they danced'
b.	*hílha*	'a dancer', 'a dance'

(9) **Pitch accent as a tense/aspect marker**

a.	*palhaatah*	'they split apart, they are split'
b.	*palháata*	'they are (already) split'

(10) **Pitch accent on N-modifying verbs**

a.	*achokmah*	'it is good'
b.	*ofi achókma*	'a good dog'

---

6. Broadwell (2006:17) claims that *all* lexical nouns have a pitch accent, and that when pitch accent is not on the penult it is on the final syllable (which he does not mark orthographically). I do not believe that this is the case. To my ear the final syllable of a noun like *Chahta* 'Choctaw' does not have noticeably higher pitch than the penult. Furthermore, the pitch accent on a penult will survive any amount of suffixation added to the noun (e.g. case suffixes like *-(y)at*/*-(y)a*). The prominence sometimes found on noun-final syllables does not survive the addition of suffixes. The issue is complicated, however, and requires structured investigation.

7. Nicklas (1974) calls this the 'nomic' tense, stating that it often tells "what the general rule about something is". But the example in (9) shows that this characterization does not cover its range of uses. Ulrich (1986:180-181) argues that these forms are nominalizations, and Broadwell (2006:179) remains ambivalent. The correct semantic and syntactic characterization of these forms requires investigation.

8. Nouns can also be attributively modified by accentless verbs—see Broadwell (2006:223-225). I briefly discuss the syntax of NP-internal attributive modification in §2.6.2. The issue is complex and requires more investigation.

A pitch accent may be added to the penult or antepenult of a verb in combination with some other stem-modifying processes, in order to form different *aspectual grades* (see §2.5.4). Some grade-forms of *taloowa* 'sing', which feature an added pitch accent, are given in (11).

(11) **Pitch accent in aspectual grades**

a.	*taloowah*	'they sang'	(base form/zero-grade)
b.	*talóowa-cha*	'they sang and…'	(l-grade)
c.	*tállowah*	'they finally sang'	(g-grade)
d.	*talo̱wah*	'they are singing'	(n-grade)

Choctaw has one other word-level suprasegmental phenomenon represented in the Modified Traditional Orthography: a falling tone, found exclusively on the lengthened penultimate vowel of a verb in the y-grade. An example is given in (12).

(12) **Falling tone in the y-grade**

a.	*bashah*	'they got cut'	(base form/zero-grade)
b.	*bâàshah*	'they finally got cut'	(y-grade)

See Nicklas (1974:11-12, 27, 123), Ulrich (1986:67-72) and Broadwell (2006:17-18,52-53) for discussion of pitch accents in Choctaw. As noted above, both high and falling accents are represented only in the Modified Traditional Orthography, and are not marked at all in the Modern Orthography.

We can now turn to the status of the glottal stop, which is intimately intertwined with the orthographic final *-h* found on verbs (and some nouns). The two main positions on the glottal stop are (a) that it is a non-phonemic artefact of prosodic phonology, inserted at certain prosodic boundaries, and (b) that it is a member of Choctaw's phonemic inventory. The non-phonemic view is implicit in most work on Choctaw, as most scholars simply do not mark glottal stops (e.g. Byington 1870, 1915, Nicklas 1974). It is explicitly proposed in a footnote in Munro (1984a:440), and given some more attention in an endnote in Munro (1985a).[9] The phonemic view is worked out in the most detail by Ulrich (1986:85ff.), and is adopted by Broadwell (2006).

I adopt the non-phonemic analysis because I do not believe there is enough evidence for the phonemic status of the glottal stop. Phonemic glottal stops are proposed to account for three main phenomena: (a) phonetic glottal stops at the end of some noun stems, (b) compensatory lengthening on noun stems before suffixes and other nouns, and (c) epenthetic *y* inserted between some (but not all) noun stems and suffixes. Each of these phenomena can be captured without recourse to a phonemic glottal stop.

Let's turn to first to phonetic glottal stops. Some Choctaw nouns, when uttered in isolation, end in glottal stops, and others do not. This is shown in (13).

9. It has likely been proposed in several other places—Ulrich (1986) cites a manuscript by Phil Jaggar.

(13) **Some nouns end in a glottal stop**

a. *annó̲pa*[ʔ] ‘word’

b. *ohooyo*[Ø] ‘woman’

I follow the traditional analysis and assume that [ʔ] is inserted at the end of vowel-final words (nouns and verbs). [ʔ]-insertion is *blocked* by the presence of a final underlying *h*. This means that the underlying representations of the words in (13) are as in (14a-b). (14c) shows how a verb with the default tense suffix *-h* similarly is pronounced with no final glottal stop.

(14) **Underlying final *h* blocks glottal stop insertion**

a. *annó̲pa* → *annó̲pa*[ʔ] ‘word’

b. *ohooyoh* → *ohooyo*[Ø] ‘woman’

c. *hilha-h* → *hilha*[Ø] ‘she dances’

Although this *h* is not pronounced when it is word-final, it *is* pronounced when followed by additional vowel-initial suffixes. This is shown for a noun and a verb in (15).

(15) **Word-final *h* is pronounced when followed by a suffix**

a. *ohooyoh-at* → *ohooyohat* ‘woman.NOM’

b. *hilha-h-o̲* → *hilhaho̲* ‘is she dancing?’

In the orthographies employed here, I always mark default-tense verbs with the *-h* suffix. I attempt to mark *h* on those nouns where it is justified (whether by the absence of a glottal stop or by the appearence of phonetic *h* before suffixes), though I have likely missed a large number of *h*’s through inattention.[10]

10. There is evidence that the presence vs. absence of /h/ before a following suffix is *not* strictly linked to the presence of an /h/ in the underlying representation for all speakers. The sentences in (i) were produced by the same speaker, a woman in her late 30s, on different occasions, indicating that the relation between the glottal stop and underlying *h* may be undergoing reanalysis.

(i) **Presence of word-final *h* varies across speakers**

a. *Ofi hat okla wochchih.*
ofiih-at okla=wochchi-h
dog-NOM PL=bark-TNS
‘The dogs barked.’ (E_30-05-17_34)

b. *Ofi yat i̲ ma̲yah.*
ofii-yat i̲-máya-h
dog-NOM DAT-be.PL:NG-TNS
‘He has some dogs.’ (E_08-09-17_93)

Likewise, the examples in (ii) were produced by a male speaker in his 60s.

(ii) **Presence of word-final *h* varies across speakers**

a. *Ohóyo hat ápisa kóli kásh áyiskatok.*
ohooyoh-at aapísa kooli-k-aash aayiska-tok
woman-NOM window smash.ACT-COMP-PREV fix-PST
‘The woman fixed the window that she broke.’ (A_04-17-19_87)

b. *Ohóyo yat okkisa i̲ tíwacha nayoppatok.*
ohooyo-yat okkísa i̲-tíiwa-cha nayoppa-tok
woman-NOM door DAT-open.NACT:LG-and.SS happy-PST
‘The woman had the door opened for her and she was grateful.’ (A_10-18-18_30)

A second proposed justification for phonemic /ʔ/ is that the final syllable of glottal-final nouns is often (though not always) lengthened before certain suffixes, as in (16). The same lengthening is found when the noun is the first in a noun-noun compound. Ulrich (1986:81-94) and Broadwell (2006:31) propose that this lengthening is compensatory in nature, with the deletion of the underlying glottal stop.

(16) **Pre-suffix vowel lengthening compensates for deletion of glottal stop (to be disputed)**

a. *annóp̲a*[ʔ] 'word'

b. *annóp̲aa-m-at* 'that word.NOM'

While there is good evidence for *diachronic* compensatory lengthening following the loss of a phonemic glottal stop in this position, we do not need to appeal to an underlying glottal stop in the synchronic analysis of this phenomenon. We can simply appeal to a process that lengthens final vowels before certain word-internal boundaries. For those nouns that do *not* have their final vowels lengthened before suffixes, we can assume that the rule is blocked by underlying final *-h*.

A third main justification provided for phonemic glottal stops is that *y* is often inserted between glottal-final stems and certain suffixes (Ulrich 1986:99-102). This can be understood if *y* is an intervocalic allophone of the glottal stop. Some examples are given in (17-18).

(17) **[ʔ] → *y* before OBL suffix *-a̲***

a. *annóp̲a*[ʔ] 'word'

b. *annóp̲a*[ʔ] + -a̲ → *annóp̲aya̲* 'word.OBL'

(18) **[ʔ] → *y* before Q suffix *-o̲***

a. *hattak mat hattak hókli*[ʔ] 'That man is a police officer.'

b. *hattak mat hattak hókli*[ʔ] + -o̲
→ *hattak mat hattak hókliyo̲?* 'Is that man a police officer?'

There are variety of analytical options here that do not, I believe, require us to posit a phonemic glottal stop with *y* as an allophone. One option is that *y* is epenthetic, inserted between two vowels across certain types of boundary. Another is that these suffixes have phonologically-conditioned allomorphs that begin with *y*, inserted after vowels.[11] See Broadwell (2006:27-31) for some other potential arguments for a phonemic

11. Note that *ya̲* can appear by itself, meaning 'there' (deictic location). If this *ya̲* is the same morpheme as the case suffix *-(y)a̲*, then we would no longer require a '[ʔ] → *y*' analysis in order to account for the presence of the *y*.

(i) *Isht taptolit ya̲ hikiyah.*

isht=taptóli-t	ya̲	hikíya-h
INSTR=chop.NMZ-NOM	there	stand:NG-TNS

'The axe is standing there.' (D_10-13-18_74)

glottal stop, which I am unable to address here, and see Heath's (2007) review of Broadwell (2006) for an overview of the Choctaw glottal stop controversy.[12]

2.2.3 Comparison of the two orthographies

In this section, I provide a brief overview of some differences between the Modified Traditional Orthography, which I employ in this dissertation for all purposes related to linguistic analysis, and the Modern Orthography, which is becoming a standard at MBCI (though is itself still undergoing some standardization).

We have already seen some differences. Firstly, the two orthographies mark vowel length differently (cf. (4)). The Modified Traditional Orthography employs doubled characters, while the Modern Orthography employs an acute accent. Secondly, the Modern Orthography does not represent pitch accent, while the Modified Traditional Orthography uses the acute accent for this purpose. The examples in (19) illustrate how the two orthographies will represent some derived forms of *baliili* 'run'.[13]

(19) **Derived forms of *baliili* 'run' in two orthographies**

Modified Traditional	Modern	IPA	Meaning
baliilih	balílih	[bali:lɪ]	'they run'
balíili	balíli	[balí:liʔ]	'runner'
ikbaliili	ik balíli	[ɪkbali:liʔ]	'may they run!'
bal̲ilih	bal̲ilih	[baĺ̲i:lɪ]	'they are running'

Another major difference between the two orthographies is in spacing. The Modern Orthography is designed to emphasize readability and learnability, and as such puts spaces at certain morpheme boundaries within morphological words. In particular, most prefixes are written as separate orthographic words—in (19), the irrealis prefix *ik-* is separated from the stem by a space in the Modern Orthography, but not in the Modified Traditional Orthography. The increased used of spacing in the Modern Orthography allows readers to easily spot breaks between morphemes, but sacrifices the accurate representation of morphophonological wordhood.

The spacing conventions of the Modern Orthography interact in a somewhat unfortunate way with orthographic final *-h*. While certain suffixes are written as connected to the orthographic word containing the stem (e.g. 1SG.ERG *-li*, PST *-tok*), others are written with a space preceding them (e.g. complementizer *-k-*, case-markers *-at*/*-a̲*). One *potential* consequence of the use of these spaces is a proliferation of

12. Ulrich (1986) also argues that grade forms (see §2.5.4) involve the insertion of word-medial glottal stops, which are subsequently deleted, triggering y-insertion or compensatory lengthening. I follow Broadwell (2006:31) in viewing these representations as unnecessary for the analysis of Mississippi Choctaw.

13. In the IPA column, I represent *i* as [i] in phonologically open syllables (which may end up phonetically closed by a glottal stop) and as [ɪ] in phonologically closed syllables (which end up phonetically open thanks to the non-realization of final *-h*). This difference is impressionistic, but a similar effect, where word-final /i/ is less fronted than word-medial /i/, has been documented for Chickasaw (Gordon and Munro 2007:24).

linguistically-unmotivated *h*'s on the ends of orthographic words—writers will insert these simply because the orthographic word does not end in a glottal stop. Of course the real reason why there is a no glottal stop here is that the end of the orthographic word does not represent the edge of a morphophonological word, and *not* because there is an underlying *h*. The example in (20) illustrates this problem. The second line, written in the Modified Traditional Orthography (with dashes between the word-internal morphemes, as in most examples in this dissertation), shows no word-internal *-h*'s. By contrast the first line, written in (an older version of) the Modern Orthography, shows two *-h*'s inserted at points internal to the morphological word.

(20) **Spurious *h*'s in the Modern Orthography**

Ná michchih kat im achokmah mo̲matok.
naa michchi-k-at im-achokma-mǫ́ma-tok
thing do-COMP-SS DAT-good-still-PST
'She still enjoys doing things.' (A_04-06-19_59)

As of the time of writing (August 2020), the Modern Orthography is still undergoing development and revision, and this problem may subside as spacing and pronunciation conventions evolve. Indeed, in the most recent version of the Style Guide under development at MBCI, as well as in some more recent materials put out by MBCI (as of March 2020), the complementizer *-k-* is written as connected to the orthographic word containing the stem.[14] When writing in the Modern Orthography, I have attempted to keep to the most recent Language Program style guide (August 2020). I conduct all linguistic analysis in this dissertation in the Modified Traditional Orthography.

In summary, this section has provided a brief overview of the segmental and suprasegmental phonology of Choctaw, and how these systems interact with the orthographies employed in this dissertation. I have attempted to justify why I employ two orthographies, and why I use only the Modified Traditional Orthography for linguistic analysis. I have also made the case for *not* treating the glottal stop as a contrastive phoneme of Choctaw, in contrast with Broadwell (2006).

Note that there are several other Choctaw orthographies that have been employed at various times by various organizations, which I do not discuss here. The most important one is the Traditional Orthography, initially devised by Cyrus Byington in the 19th century and used today by the Choctaw Nation of Oklahoma. I refer the reader to Broadwell (2006) for critical discussion of this orthography.

In the remaining sections of this chapter, I introduce some basic morphosyntactic properties of Choctaw, and build up an ad-hoc formal analysis as we go. This sets the stage for the analyses of particular phenomena

14. E.g. "Standing Pine Residents Discuss Choctaw Language & Culture" (`https://www.youtube.com/watch?v=qpHjavYlLcw`).

in Choctaw syntax in chapters 3-6. §2.3 introduces the basic clausal syntax of Choctaw, providing evidence in particular for the existence of a subject position. §2.4 discusses the 'middle field' between the subject and the verb, where objects and many adjuncts reside. §2.5 turns to the verb complex itself, discussing the suffixes, prefixes and proclitics that clump together around the verb root. Sections 2.6 and 2.7 then look at the somewhat slippery nature of lexical categories in Choctaw and the noun/verb distinction.

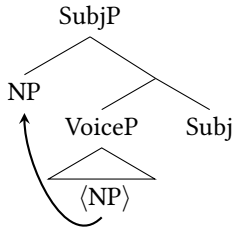
2.3 Basic clausal syntax

In this section and the next I build a simple model of Choctaw clausal syntax. In §2.3.1 I argue that Choctaw has a syntactic subject position, and in §2.3.2 I outline some core properties of Choctaw subjects. I then move to two other properties of Choctaw clausal syntax that are not crucial to the analysis in this dissertation but occur in so many examples that it's important to know about them: restructuring complements (§2.3.3), and fronting and extraposition (§2.3.4). This allows us to transition to §2.4, where I discus the 'middle field'—the area hemmed in by the subject and the verb complex—and §2.5, where I discuss the verb complex itself.

2.3.1 The subject position

This dissertation assumes that arguments within a clause are base-generated as specifiers of functional heads within the VoiceP domain: Spec-vP, Spec-ApplP, Spec-VoiceP (see §1.3). Once generated, arguments may subsequently move to other positions within the clause. Sometimes, they front or extrapose to positions peripheral to the clause, for reasons related to information-structure (see §2.3.4). In this section I argue that one and only one argument in each Choctaw clause moves to the *subject* position, a dedicated structural position outside the VoiceP. I give the subject-hosting functional head the placeholder label 'Subj' (the subject position itself is, accordingly, 'Spec-SubjP'). Choctaw clauses in this dissertation are often represented with a tree like (21)—an argument moves to Spec-SubjP from some position within VoiceP.

(21) **Movement to subject position**



'Subj' is a placeholder label, standing in for some properly-motivated functional head in the clausal spine. I give some consideration to the true identity of Subj in §2.5.4, but ultimately I do not turn up much—hopefully

further investigation will clarify the identity of Choctaw's subject position. I assume that movement to the subject position is driven by an 'EPP' feature on Subj (Chomsky 1981), though I do not discuss this is any detail either.[15]

Here, I offer three arguments that Choctaw has a dedicated subject position. The first argument comes from adverb placement. Broadwell (2006:39) shows that in transitive clauses, temporal adverbs like *piláashaash* 'yesterday' and *polaka* 'finally' cannot be placed between the theme argument and the verb, as in (22).[16]

(22) **Temporal adverb cannot appear between object and verb**

a. (Piláashaash) Mary-at (piláashaash) sholosh (*piláashaash) chopa-tok (piláashaash).
(yesterday) Mary-NOM (yesterday) shoe (*yesterday) buy-PST (yesterday)
'Yesterday Mary bought shoes.' (Broadwell 2006:39-40)

b. (Polaka) Jenny-at (polaka) i-ki (*polaka) ot písa-tok (*polaka).
(finally) Jenny-NOM (finally) DAT-father (*finally) go.and see:NG-PST (*finally)
'Jenny finally visited her father.' (A_01-30-18_62, judgments)

As Broadwell notes, a natural analysis of this restriction is that the verb and the theme argument must form a constituent to the exclusion of the agent argument, and that temporal adverbs cannot be adjoined inside this constituent. However, in the theoretical landscape in which this dissertation is situated, this is already the case: we assume that theme arguments are within a vP constituent, to the exclusion of the agent, which is merged in Spec-VoiceP. The pattern in (22) is not, *by itself*, sufficient evidence for a VoiceP-external subject position.

Instead, we have to look at in intransitive clauses. In these clauses, the lone argument of the verb can *always* be separated from the verb by a temporal adverb. This includes theme arguments like in (23).

(23) **Temporal adverb can appear between intransitive subject and verb**

a. *Matt at piláshásh famatok.*
Matt-at piláashaash fama-tok
Matt-NOM yesterday whip.NACT-PST
'Matt got whipped yesterday.' (D_04-11-19_111)

b. *A bálokkat polaka lhilláfatok.*
a-baalokka-t polaka lhíllaafa-tok
1SG.DAT-pants-NOM finally rip.NACT:GG-PST
'My pants finally ripped.' (A_10-24-18_78)

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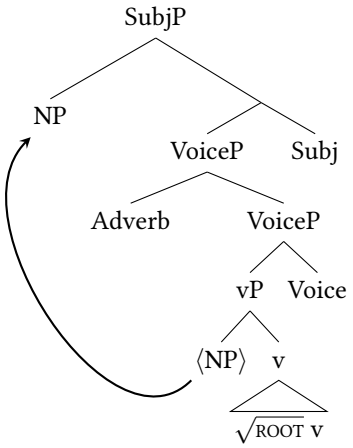
15. Note that throughout this dissertation I am assuming that Choctaw has true argumental NPs, and that Choctaw is *not* a so-called 'pronominal argument' language, in the sense of Jelinek (1984) or Baker (1996). For arguments against a pronominal-argument analysis of Choctaw see Broadwell (2006:38-45). I also briefly discuss the issue in §2.7.3.

16. Broadwell (2006:312-215) classifies *piláashaash* 'yesterday' as an 'external' temporal adverb and *polaka* (for him: *polakah*) 'finally/after a while' as an 'internal' temporal adverb, owing to their differing tolerance of appearing in sentence-final position.

c. *Ahít himakilika walhallih*
ahii-t himak-ili-k-a walhalli-h
potato-NOM now-indeed-COMP-DS boil-TNS
'The potatoes are boiling right now.' (E_10-21-18_5)

On the assumption that theme arguments are always merged in a low position within the VoiceP—in the framework adopted here, Spec-vP (§1.3.2)—what explains the difference in possible adverb placement between (22) and (23)? I argue that the easiest thing to assume is that the highest argument in all VoicePs must move to a dedicated subject position, which we can implement by positing an EPP feature on the functional head Subj. This explains why theme arguments behave differently with respect to adverb placement in (22) vs. (23): in moving to the subject position, they cross over the lowest possible attachment site of the temporal adverbs, somewhere in the region of the Voice layer. This is schematized in (24).

(24) **Movement across adverb to subject position**



The second argument for a dedicated VoiceP-external subject position has a similar character to the first. First, note that the two objects in a double-object construction may be freely re-ordered, as in (25) (cf. Broadwell 2006:46). I analyze this as VoiceP-internal scrambling (see §2.4 on the fairly free ordering of constituents within the middle field).

(25) **Objects may be reordered**

a. *Sipokni ma okkisa i tiwwilitok.*
sipókni-m-a okkísa i-tiwwi-li-tok
old.person-DEM-OBL door DAT-open.ACT-1SG.ERG-PST
'I opened the door for the elderly person.' (C_01-30-18_100)

b. okkísa sipókni-m-a i-tiwwi-li-tok
door old.person-DEM-OBL DAT-open.ACT-1SG.ERG-PST
'I opened the door for the elderly person.' (C_01-30-18, judgment)

Now observe what happens in *transitive unaccusative* clauses—i.e. clauses with two internal arguments and

no external argument. The order of the two internal arguments becomes fixed. We can understand this as a consequence of one of the arguments moving to the VoiceP-external subject position. Once that argument has moved to the subject position, the remaining VoiceP-internal argument can no longer scramble around it.[17]

(26) **Unmarked object cannot scramble across subject**

a. *Ohóyo yat okkisa i tíwacha nayoppatok.*
ohooyo-yat **okkísa** i-tíiwa-cha nayoppa-tok
woman-NOM **door** DAT-open.NACT:LG-and.SS pleased-PST
'The woman had the door opened for her and she was grateful.' (A_10-18-18_30)

b. ***Okkísa** ohooyo-yat i-tíiwa-cha nayoppa-tok.
door woman-NOM DAT-open.NACT:LG-and.SS pleased-PST
('The door, the woman had it opened for her, and she was grateful.') (A_10-18-18, judgment)

Transitive unaccusative clauses are a major focus of chapter 5.[18]

A further argument for a VoiceP-external subject position comes from the extrinsic plural marker *okla*, which sits at the left edge of the verb complex in the *proclitic* zone (cf. §2.5.3).[19] It is generally the case that, for a transitive verb, only the subject of that verb can associate with *okla*. Most objects cannot associate with *okla*:[20]

(27) **Subject arguments can associate with *okla*, object arguments cannot**

a. *Alla alhíha yat miko ha holisso okla im átok.*
alla alhiiha-yat mikoh-a holisso **okl**=im-aa-tok
child PL-NOM chief-OBL letter **PL**=DAT-give-PST
'The kids gave the chief a letter.' (I_01-31-18_125)

b. Ofi (***okla**) ak-píis-o-tok.
dog (***PL**) 1SG.IRR-see:LG-NEG-PST
'I didn't see the dog/(*dogs).' (Tyler 2019b:326)

The lone theme argument of intransitive verbs, however, *can* associate with *okla*, as in (28):

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17. In fact, the sentence in (26b) can be made acceptable by adding an oblique case-marker to *okkísa* 'door', as in (i).

(i) Okkísa-ya ohooyo-yat i-tiwa-h.
door-OBL woman-NOM DAT-open.NACT-TNS
'The door, the woman had it opened for her.'

The addition of the case-marker allows the fronted object to be interpreted as *topicalized*. The landing site for topicalized NPs is to the left of the subject position, and is discussed in §2.3.4 (see also Broadwell 2006:46-47).

18. In chapter 5 I show that theme arguments are base-generated *below* applied arguments, but sometimes end up as the subject of the clause anyway, crossing over the applied argument. This kind of analysis relies on there being an A-position for the theme to land in after raising over the applied argument—the subject position meets this requirement.

19. Here I recapitulate an argument I made in Tyler (2019b).

20. In Tyler (2019b:326) I identified a caveat to this condition, which is that 1st and 2nd-person objects—i.e. those objects which are doubled by ABS clitics—*can* associate with *okla*. As an analysis, I proposed that ABS clitics adjoin *above* the attachment site of *okla*, from where they c-command *okla* (see Kayne 1981, Belletti 1982 on the c-command condition on extrinsic quantifiers). This analysis is maintained in this dissertation: see §2.5.2 and chapter 4 for discussion of clitic-doubling in Choctaw. Note also that Broadwell (2006:239) claims that *okla* can only associate with animate arguments, but the examples in (28) show that this restriction does not hold for all speakers.

(28) **Theme argument of intransitives can associate with *okla***

a. *Ábiníli alhíhat nan̲a kiyoho okla tobanah.*
aabiníili alhiiha-t nán̲a kiyoho **okla**=tob-an̲a-h[21]
chair PL-NOM easily **PL**=be.made-MOD-TNS
'Chairs can be made easily.' (B_10-16-19_95)

b. *Itít okla palhátah.*
itii-t **okla**=palhaata-h
wood-NOM **PL**=split.NACT-TNS
'The logs are split.' (A_10-16-18_24)

In Tyler (2019b), I argued that the ability of an argument to associate with *okla* is regulated by a fairly strict rule: the argument must c-command *okla* (from an A-position). I used the interaction of *okla*-licensing and clitic-climbing to make this point, though I do not repeat the argument here.

In-situ objects do not c-command *okla*, and so cannot associate with it, as shown by (27b). On the assumption that the theme subjects of an intransitive, as in (28), is base-generated in the same position as a transitive object (here, Spec-vP), the only way that it would be able to ultimately license *okla* is by raising to a higher position. A VoiceP-external subject position provides a natural account of this.

I have thus outlined three arguments for a dedicated subject position outside the VoiceP. Each of the arguments has a similar character: I showed that theme arguments, which are putatively all base-generated low within the VoiceP, behave as though they are in a higher syntactic position, but *only* when they are the highest argument in their clause.[22] So now that we have established that there is a dedicated subject position ('Spec-SubjP'), this raises the question of where it is in the clause. I defer discussion of this topic until §2.5.4, by which point we have built up a more extensive picture of the Choctaw clausal spine. In the next part of this section, I discuss some of the other properties of Choctaw subjects.

2.3.2 Core properties of subjects

There are several other properties of Choctaw subjects that are relevant for this dissertation: they carry nominative case, they are always available for evaluation by the switch-reference system, and they can serve as controlled PRO. I discuss these here in turn.

Almost all overt subject NPs in Choctaw carry nominative case (as introduced in §1.2.6 and discussed in detail in chapter 6). This is exemplified with a transitive and an intransitive subject in (29).

21. The idiomatic phrase *nán̲a kiyoho* 'easily' is composed of *nán̲a* 'something' (cf. §2.7.1) and *kiyo-h-o* 'not-TNS-DS'. An English analogue might be the expression 'it was nothing'.

22. Broadwell (2006:38-47) provides a number of pieces of evidence for a subject/object asymmetry in Choctaw. In particular, he uses evidence from binding to show that transitive subjects c-command transitive objects, and he uses evidence from the distribution of verbal pro-forms to show that objects form a constituent with the verb to the exclusion of subjects. In the framework he employs, which does *not* make use of an articulated VP structure, showing that these asymmetries exist is sufficient to demonstrate the existence a dedicated subject position. However, in the framework here, with an articulated 'VoiceP' structure, these arguments confirm the starting assumption that transitive subjects c-command transitive objects, but they do *not* by themselves argue for a subject position.

(29) **Overt subjects have NOM case-marking**

a. *Alla mat haktapi ik achífotok.*
allaa-m-**at** haktápi ik-achíif-o-tok
child-DEM-**NOM** armpit IRR-wash.ACT:LG-NEG-PST
'The kid didn't wash his armpits.' (E_06-01-17_54)

b. *Hakshop at shokaafah.*
hákshop-**at** shokaafa-h
skin-**NOM** peel.NACT-TNS
'The skin peeled off.' (A_10-09-18_7)

However, nominative case does not, by itself, diagnose an NP as a subject. Some objects have nominative case too:

(30) **Some objects have nominative case**

chishn-aak-oosh sholosh-(**at**) chi-kaniiya-tok
you-FOC-NOM.SP shoe-(**NOM**) 2SG.DAT-lose-PST
'*You* lost the shoes.' (C_06-14-17_9, judgments)

The example in (30) also serves to illustrate that case-marking on objects is optional. This is generally true of both nominative and oblique objects (some caveats are discussed in chapter 6).

A second important property of subjects, which differentiates them from objects, is that they can always be evaluated when computing switch-reference marking. The subject of the first clause in (31a) is coreferential with the subject of the second clause, and so same-subject (SS) morphology is licensed. By contrast, an object cannot generally be evaluated when computing switch-reference, as shown by (31b).[23]

(31) **Only subjects can be evaluated for identity in switch-reference**

a. *Alla mat achokma anokfillahí kiyohátokósh yoshóbatok.*
allaa-m-at$_i$ achókma anokfill-ahii-kiyo-h-aatok-**oosh** *pro*$_i$ yoshooba-tok
child-DEM-NOM good think-MOD-not-TNS-because-**SS** get.lost-PST
'That kid doesn't think, so he got lost.' (L_06-15-17_40)

b. Bread$_i$ kocha talaali-li-tok-**o**/*-oosh *pro*$_i$ latassa-t taha-tok.
bread outside put.ACT-1SG.ERG-PST-**DS**/*-SS flat-PTCP finish.NACT-PST
'I left the bread out so it went flat.' (B_10-15-19b_28)

A third important property of subjects is that they can serve as controlled PRO. Controlled PRO appears

23. Objects of dative-subject transitives may be marked with nominative case and *may* be evaluated for joint vs. disjoint reference. An example is shown in (i).

(i) Jim-at kátos$_i$ i-kaniiya-hm-**at**/-a, *pro*$_i$ falaama-t ik-hayáak-o-h.
Jim-NOM cat DAT-leave-when-**SS**/-DS return-PTCP IRR-appear:LG-NEG-TNS
'When Jim lost his cat, it didn't come back again.' (A_08-08-17, PB_08-08-17, judgments)

However, this example shows that nominative objects also have the option of *not* being tracked by the switch-reference system, even when coreferential with the subject of an adjacent clause (the 'different subject' (DS) morpheme is judged as acceptable). Nominative subjects, by contrast, do not have the same option of being ignored by the switch-reference system. The interaction between subjecthood, case value, case marking, and switch-reference is complex, and is discussed in more detail in §2.7.3 and chapter 6. Broadwell's (1990) dissertation deals with the topic in depth.

as the subject of certain complement clauses and adjoined clauses. The way to determine that the subject of a clause is controlled PRO, rather than a null pronoun (*pro*, which is subject to binding condition B), is that PRO does *not* trigger agreement on the verb, even when the argument controlling it is 1st or 2nd-person.

In (32), the complement clauses of *banna* 'want (to)' and *ikkána* 'know (how to)' have controlled PRO as their subject. We know this because the embedded verb does not display agreement, even though PRO is coreferential with a 1st-person argument.[24] Note that complement clauses are generally preverbal—see Broadwell (2006:281-283) for more discussion of 'equi' (i.e. control) complements.

(32) **Controlled PRO is not clitic-doubled in complement clause**

a. *Chishnáko chi holba sanna kiyoh.*
pro.1SG$_i$ [PRO$_i$ chishn-aak-o chi-holba] sa-nna-kiyo-h
you-FOC-OBL.SP 2SG.ABS-resemble 1SG.ABS-want-not-TNS
'I don't want to be like you.' (L_08-08-17_128)

b. *Ma ishtayakat ikkanalih.*
pro.1SG$_i$ [PRO$_i$ m-a ishtáya-k-at] ikkána-li-h
DEM-OBL drive:NG-COMP-SS know:NG-1SG.ERG-TNS
'I know how to drive that.' (A_02-01-18_102)

Similarly in (33), we see two adjoined clauses whose subjects are controlled PRO (adjoined clauses may appear before or after a main clause, cf. Broadwell 2006:264). (33a) contains an adjoined purpose clause and (33b) contains an adjoined manner clause (cf. Broadwell 2006:289).

(33) **Controlled PRO is not clitic-doubled in adjoined clause**

a. *Tamáha il íyatok shikalla chopáchihósh.*
pro.1PL$_i$ tamaaha il-iiya-tok [PRO$_i$ shikalla chop-aachi-h-oosh]
town 1PL.ERG-go-PST bead buy-FUT-TNS-SS
'We went to town to buy beads.' (F_10-09-18_5)

b. *Achi shiláchilitok hairdryer íshihósh.*[25]
pro.1SG$_i$ achi shilaachi-li-tok [PRO$_i$ hairdryer íishi-h-oosh]
blanket dry.ACT-1SG.ERG-PST hairdryer hold:LG-TNS-SS
'I dried the blankets using a hairdryer.' (I_01-31-18_149)

In contrast to subjects, objects can never be replaced with controlled PRO. It's worth noting at this point that subjects indexed by DAT clitics scramble the subjecthood tests a bit—see §5.3 for discussion.

In the final part of this section, I discuss *restructuring*: where a verb takes a reduced clause as a complement and the result seems to be just one clause.

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24. Although the English translation of (32b) is compatible with an 'arbitrary' interpretation of PRO ('I know how someone might drive that'), the same-subject morphology on the embedded clause indicates the embedded subject is coreferential with the matrix subject.

25. Manner clauses formed with *-h-oosh*, or its reduced variant *-sh*, sometimes put their verb in the l-grade. See §2.5.4 for discussion of aspectual grades in Choctaw.

2.3.3 Restructuring

Restructuring refers to the phenomenon where a verb takes as its complement a reduced clause, and the matrix and embedded clauses appear to form a single clause, syntactically. We already saw an instance of this in (32a), where *banna* 'want' takes a reduced clause as a complement, with no overt complementizing morphology. Here I discuss two other common restructuring complements in Choctaw, which recur throughout this dissertation. Note that I do not distinguish between raising and control structures here, since (a) it would take us too far afield and (b) to my knowledge relevant tests have not yet been developed.

One common kind of restructuring complement in Choctaw is the participial clause. (34a) shows a complement participial clause formed with *-t*, and (34b) shows a complement participial clause formed with *-sh*.

(34) **Participial clauses as restructuring complements**

a. *Oka p̲ini losakbilit tahlih.*
oka p̲íni losakbili-t tahli-h
water boat darken-PTCP finish.ACT-TNS
'He's done darkening the boat.' (A_10-09-18_63)

b. *Sam at tali áyano̲poli kana im ano̲polish a̲ttah.*
Sam-at tali aayano̲póli kána im-ano̲poli-sh á̲tta-h
Sam-NOM phone someone DAT-speak-PTCP be.SG:NG-TNS
'Sam is speaking to someone on the phone.' (L_08-14-17_132)

In these examples, the lexical verb is in the participial clause, while the main verb only serves to introduce some aspectual meaning.

Another notable kind of restructuring complement, which recurs throughout the examples provided in this dissertation, involves the light verb *(h)i-*. It is quite common for right-peripheral functional material, rather than being stacked up all on a single lexical verb, to be distributed across the lexical verb and the light verb *(h)i-*. Some examples are given in (35).

(35) **Restructuring with V + light verb *(h)i-***

a. *Ofi mat achokmatok hikakósh assano alhlhi kat illitok.*
ofii-m-at achokma-tok **hi**-kak-oosh assano alhlhi-k-at illi-tok
dog-DEM-NOM good-PST **LV**-although-SS grow be.before-COMP-SS die-PST
'That dog was a good dog but he died before he grew up.' (C_02-05-18_3)

b. *John at skali i̲ lawa ihátokósh, ná himóna cho̲pat tókalhlhih.*[26]
John-at skali i̲-lawa **i**-h-aatok-oosh, naa himóona cho̲pa-t tookálhlhi-h
John-NOM money DAT-many **LV**-TNS-because-SS thing new.NMZ buy-PTCP always-TNS
'John has a lot of money so he's always buying new things.' (C_02-05-18_179)

26. The glossing in this example provides just one possible analysis of the fairly common string *-ttookálhlhih* 'always be doing something'. It could also be the distant past suffix *-ttook* followed by (a) a form of the verb *alhlhi* 'be true' or (b) a form of the suffix *-malhlhi* 'indeed' (though Broadwell 2006:320 shows that *-malhlhi* always appears *before* the tense morpheme).

c. *Kopóli hitok miyatok.*
kopooli hi-tok miya-tok
bite LV-PST say-PST
'She said it bit it.' (E_06-06-17_12)

In clauses with light verbs, the subject of the (lower) main verb must be treated, in some sense, as the subject of the whole clause. We know this because the subject of the (lower) main verb can be evaluated for switch-reference, even though the same-subject morphology appears on the (higher) light verb, as in (35a-b).[27]

2.3.4 Topics, fronting and extraposition

Arguments may be fronted to a pre-subject position or extraposed to a postverbal position, as in (36).

(36) **Fronting and extraposition of object**

a. **Tákkon*(-a)**, John-at chopa-h.
peach*(-OBL) John-NOM buy-TNS
'John bought a peach.'

b. John-at chopa-h, **tákkon-a**.
John-NOM buy-TNS peach-OBL
'John bought a peach.' (Broadwell 2006:39)

Wh-words are able to undergo fronting too. This gives the impression that Choctaw has 'optional *wh*-movement' (Broadwell 2006:45, 119-123), but I believe the simplest way to think about it is that *wh*-words are like regular NPs, in that they may be fronted or not (see §2.7.1 for discussion of the categorial status of *wh*-words):

(37) **Optional *wh*-fronting**

a. *John at katahọ ápisachitok?*
John-at **káta-h-o** aapisáchi-tok
John-NOM who-TNS-OBL.SP look.after:NG-PST
'Who did John look after?' (H_06-01-17_130)

b. **Káta-h-*(o)** John-at aapisáchi-tok?
who-TNS-*(OBL.SP) John-NOM look.after:NG-PST
'Who did John look after?' (H_06-01-17_131, judgment)

I do not investigate fronting and extraposition in any detail here. However, (36a) and (37b) do illustrate one interesting property of fronting in particular: the fronted argument must be case-marked (recall from §1.2.6

27. Broadwell (2006:271) argues that certain verbs have expletive subjects. He then proposes a rule by which clauses with expletive subjects become 'transparent' for switch-reference in certain configurations. His discussion was about a different construction—embedded questions—but seems applicable to these cases too. An alternative analysis would be that clauses formed with light verbs do not have expletive subjects, but instead are raising verbs, and so the subject of the embedded verb becomes the subject of the light verb.

that *in situ* objects need not be case-marked).[28] This property is relevant to the analysis of case-marking in chapter 6 (also Tyler 2019c).

In addition, some NPs in pre-subject position are 'scene-setting' topics (Lambrecht 1994, Haegeman 2012), not linked to an argument position. Examples are given in (38).

(38) **Non-argumental scene-setting topics**

a. *Bók ma̲ nanit lawah.*
book-m-a̲ nani-t lawa-h
river-DEM-OBL fish-NOM many-TNS
'There are a lot of fish in the river.' (B_06-20-17_37)

b. *Onáfa ya̲ butterbeans at cha̲polih.*
onaafa-ya̲ butterbeans-at cha̲poli-h
winter-OBL butterbeans-NOM tasty-TNS
'Butterbeans are good in the winter.' (A_08-07-17_101)

Unlike fronted arguments, scene-setting topics do *not* need to be case-marked (though they often are, as in the examples here). This is also significant for the analysis of nominal case-marking in chapter 6.

2.4 The middle field

In this section I show that Choctaw has something like a 'middle field', located linearly between the subject and the verb. Within the middle field, objects and (low) adjuncts may be ordered fairly freely. These adjuncts may be NPs, participial phrases and certain 'bare' verbs.

First, we can see in (39) that objects may be freely ordered with respect to each other. The example in (25) showed the same thing.

(39) **Objects may be reordered in the middle field**

a. Kátos iti ish-aboyya-chi-tok.
cat tree 2SG.ERG-climb-CAUS-PST
'You made the cat climb the tree.'

b. Iti kátos ish-aboyya-chi-tok
tree cat 2SG.ERG-climb-CAUS-PST
'You made the cat climb the tree.' (Tyler to appear)

Next, the examples in (40) show that Choctaw allows some adjuncts in the middle field too. Participial adjuncts formed with *-t* are shown in (40a-d) and adjoined clauses formed with *-h-o̲* '-TNS-DS' are shown in (40e-f).[29]

28. Ulrich (1986:16-17) and Broadwell (2006:39) state that extraposing an argument to a postverbal position also forces it to be case-marked. The speakers I consulted did not agree with this generalization, however.

29. There are likely also adjoined participial clauses formed with *-h-oosh* '-TNS-SS' or its contracted form *-sh*. However, it is harder to

(40) **Adjuncts in the middle field**

a. *Sa nakfish at balít kaníyatok.*
sa-nakfish-at balii-t kaniiya-tok
1SG.ABS-brother-NOM run-PTCP leave-PST
'My brother ran away.' (K_06-15-16_84)

b. *Hattak hicha ohóyo mat falammit itti toklotok.*
hattak hicha ohooyo-m-at falammi-t itti-toklo-tok
man and woman-DEM-NOM return.ACT-PTCP RECIP-two-PST
'The man and the woman got back together.' (I_08-09-17_79)

c. *Alla mat achokmat anokfillahí kiyoh.*
allaa-m-at achokma-t anokfill-ahii-kiyo-h
child-DEM-NOM good-PTCP think-MOD-not-TNS
'That kid can't think good.' (L_06-15-17_40)

d. *John at holisso aká pilat litíhlitok.*
John-at holisso akaa pila-t litiihli-tok
John-NOM paper down throw-PTCP dirty.ACT-PST
'John threw the paper down and got it dirty.' (A_02-08-18_130)

e. *Chris at pallamihọ alatok.*
Chris-at pállami-h-ọ ala-tok
Chris-NOM struggle:GG-TNS-DS arrive-PST
'Chris had a hard time getting here.' (A_01-30-18_67)

f. *Ábiníli alhíhat nạna kiyohọ okla tobạnah.*
aabiníili alhiiha-t nạ́na kiyo-h-ọ okla=tob-ạna-h[30]
chair PL-NOM something not-TNS-DS PL=be.made-MOD-TNS
'Chairs can be made easily.' (B_10-16-19_95)

A particularly interesting class of participial adjuncts (and unusual from an Indo-European perspective) are coverbal quantifiers, which have transitive/causative voice morphology, adjoin in the middle field, and quantify over the object of the clause they adjoin to:

(41) **Coverbal quantifiers in the middle field**

a. Tákkon chíto lawaachi-t apa-t tahli-li-h.
apple many.ACT-PTCP eat-PTCP finish.ACT-1SG.ERG-TNS
'I ate many apples.' (Broadwell 2006:229)

b. *Ofi átoklịchit ílhiyohlitok.*
ofi aa-toklí̱chi-t ii-lhiyohli-tok
dog LOC-two.ACT:NG-PTCP 1PL.ERG-chase-PST
'We chased the two dogs.' (C_02-02-18_118)

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determine whether these clauses are embedded clauses adjoined in the middle field, or whether they are adjoined higher up, and the preceding nominative-marked subject is in fact the subject of the *-h-oosh/-sh* clause. An example of one such ambiguous clause is in (i):

(i) *… im ánokfila iksho mat nosish ittọlatok.*
… im-aanokfíla íkshoo-m-at nosi-sh ittọ́la-tok
DAT-thought absent.NMZ-DEM-NOM sleep-PTCP lie:NG-PST
'… the idiot was sleeping.' (E_08-11-17_13)

30. See fn. 21 for a brief discussion of *nạ́na kiyo-h-ọ* 'easily'.

The transitive quantifier verbs play a key role in the analysis of voice morphology in chapter 3, and I discuss them in more detail there (§3.5.8, see also Broadwell 2006:226-233, and Munro 2017 on Chickasaw).

Just as objects may be freely ordered with respect to each other, objects can also be freely ordered with respect to participles, as shown by (42).

(42) **Object of main verb and participial may be reordered**

a. Mary-at tóshpa-t bashpo haloppa-chi-h.
Mary-NOM be.quick.NG-PTCP knife sharp-CAUS-TNS
'Mary sharpened the knife quickly.' (C_01-31-18, judgment)

b. Mary-at bashpo tóshpa-t haloppa-chi-h.
Mary-NOM knife be.quick.NG-PTCP sharp-CAUS-TNS
'Mary sharpened the knife quickly.' (C_01-31-18, judgment)

The participle may take its own object, as in (43a). In that case, the participle's object must stay to the left of the participle (cf. Broadwell 2006:219):

(43) **Object of participle may not appear after participle**

a. *Bill at iti taptolit iyatok.*
Bill-at [iti taptóli-t]$_{PtcpP}$ iya-tok
Bill-NOM tree cut.ACT.NG-PTCP go-PST
'Bill went along hacking at trees.' (A_01-30-18_138)

b. *Bill-at taptóli-t iti iya-tok.
Bill-NOM cut.ACT.NG-PTCP tree go-PST
('Bill went along hacking at trees.') (A_01-30-18, judgments)

When both the participle and the main verb take different objects, any ordering of objects and participles is possible, provided that the objects stay on the left of their participles:

(44) **Object of main verb and object of participle may be reordered**

a. *John at ishtishko sholit átoksali nowat iyah.*
John-at [ishtíshko shóli-t]$_{PtcpP}$ aatoksáli nowa-t iya-h
John-NOM cup carry.NG-PTCP workplace walk-PTCP go-TNS
'John walked to work carrying his cup.' (A_01-30-18_141)

b. *Mary at átoksali holisso ma shalit nowat iyah.*
Mary-at aatoksáli [holisso-m-a sháli-t]$_{PtcpP}$ nowa-t iya-h
Mary-NOM workplace paper-DEM-OBL carry:NG-PTCP walk-PTCP go-TNS
'Mary walked to work carrying the paper.' (C_02-02-18_108)

c. *John at ishtishko átoksali sholit nowat iyah.*
John-at ishtíshko$_i$ aatoksáli$_k$ [t_i shóli-t]$_{PtcpP}$ nowa-t t_k iya-h
John-NOM cup workplace carry.NG-PTCP walk-PTCP go-TNS
'John walked to work carrying the cup.' (A_01-30-18_142)

We can account for this data by say that leftward scrambling of objects is fairly free within the middle field. 'Objects' here includes objects of the main clause, as well as objects of participial phrases embedded

within the main clause. The inability of participles to show up to the left of their objects (cf. (43b)) can be accounted for by a ban on remnant movement of participial phrases over their extracted objects, though I do not theorize this any further here. [31]

Choctaw also allows locative NPs to be freely adjoined within the middle field, as in (45).

(45) **Locative NPs in the middle field**

a. *Matt at driveway pa i hina ishit chanallichi takáchitok.*
Matt-at **driveway-p-a** i-hina ishit chanallíchi takaachi-tok
Matt-NOM **driveway-this-OBL** DAT-car get.stuck.ACT-PST
'Matt got his car stuck in the driveway.' (D_04-15-19_20)

b. *John at áyittatóba shokshi chopatok.*
John-at **aayittatóoba** shokshi chopa-tok
John-NOM **store** watermelon buy-PST
'John bought a watermelon at the store.' (A_08-07-17_102)

Finally, suffixless ('bare') verb phrases are sometimes adjoined in the middle field too, performing functions that are associated with adverbs in English:[32]

(46) **Bare verb phrases in the middle field**

a. *Achit palhki shilatok.*
achi-t **palhki** shila-tok
sheet-NOM **quick** dry-PST
'The sheets dried quickly.' (E_10-14-18_22)

b. *Alla mat achokma anokfillahí kiyohátokósh yoshóbatok.*
allaa-m-at$_i$ **achokma** anokfill-ahii-kiyo-h-aatok-oosh *pro*$_i$ yoshooba-tok
child-DEM-NOM **good** think-MOD-not-TNS-because-SS get.lost-PST
'That kid doesn't think properly, so he got lost.' (L_06-15-17_40)

A very common kind of adjoined bare verb phrase involves an 'adpositional' verb—see §2.6.3.

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31. The fact that that participial phrases are *not* islands for extraction challenges their characterization as adjuncts. However, the situation with scrambling out of adjunct clauses is complicated. It has been noted that in some languages that allow scrambling, scrambling from adjuncts is not as bad as other island violations. A marginal example from Japanese, involve scrambling out of a low adjoined clause, is given in (i).

(i) Nani-o$_i$ [John-ga [Mary-ga t_i katta kara] okotteru] no?
What-ACC John-NOM Mary-NOM bought since angry Q
'What$_i$ is John angry because Mary bought $_i$?' (Japanese, Saito and Fukui 1998:463)

Conditions on different kinds of movement in Choctaw require further investigation.

32. A puzzling version of this construction is found with verbs that denote stretches of time. The time verb is the rightmost verb, and it serves as the host for sentence-level suffixes (§2.5.1). Meanwhile the verb that supplies the argument structure appears in the internal 'adjoined' position. An example is given in (i).

(i) *Ápisat alhkama shohbitoko lashpatok.*
aapísa-t alhkáma shohbi-tok-o lashpa-tok
window-NOM close.NACT:NG all.day-because-DS hot-PST
'The window was open all day so it was hot.' (E_10-14-18_13)

We could perhaps think of the embedded main verb as a complement to the time verb, akin to the English "SUBJ took TIME to V" construction, but more research is required.

2.5 The verb complex

In this dissertation I refer often to the 'verb complex', a unit containing the verb root, plus a number of morphemes which prefix and suffix to it. We can divide the verb complex into four relevant domains: from left to right, proclitics, prefixes, the stem, and suffixes. The stem also serves as the domain of application of morphophonological templates encoding aspectual information, known as *grades*. A simplified template for a verb complex is provided in (47)

(47) **Template for verb complex**

PROCLITICS-PREFIXES-$\underbrace{\text{STEM}}_{\text{ASP}}$-SUFFIXES

The stem contains the root and some argument-structure-related morphology: namely, verbalizing and voice morphology (active, non-active and causative markers). I leave the internal structure of the stem unexamined in this section, since it comprises the main focus of chapter 3.

In this section I first discuss the suffixes (§2.5.1), which encode 1SG.ERG agreement, mood, tense, clause-typing, evidentiality and switch-reference information. I then turn to the prefixes (§2.5.2), which is where Choctaw's argument-doubling clitics and applicative morphemes end up. In §2.5.3 I discuss the proclitics, which inhabit the left edge of the verb complex, and in §2.5.4 I give a very curtailed overview of Choctaw's aspectual grade forms.

While the verb complex is clearly a useful *orthographic* element, it need not be a single morphosyntactic constituent (head or phrase), and indeed I remain agnostic on this issue.[33] Impressionistically, the verb complex behaves as a single *phonological* word too, though more rigorous investigation on that front is required.

2.5.1 Suffixes

The suffixal domain of the verb complex template is expanded in (48). The part labelled 'c' differs between main and embedded clauses—in main clauses it is where evidentiality and clause-typing morphology goes; in embedded clauses it's where we find complementizers and switch-reference markers.

(48) **Template for verb complex (suffixes expanded)**

PROCLITICS-PREFIXES-$\underbrace{\text{STEM}}_{\text{ASP}}$-**1SG.ERG-MOD-TNS-C**

33. The verb complex corresponds to an orthographic word in the Modified Traditional Orthography, but not in the Modern Orthography (cf. §2.2.3).

Let's first consider the part of the verb complex that lies between the stem and the C-layer, where we find the 1SG.ERG agreement suffix *-li*, mood markers, and tense markers. The final verb in (49) contains all three (an adjoined clause is used to help create the right context for the past conditional).

(49) **Verb with 1SG.ERG, MOD and TNS suffixes**

Ikkanalitokmat, nanahókano ábiníni ma o patálilanatok.

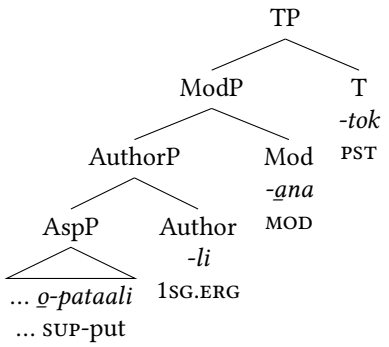
ikkána-li-to-km-at,	nána-h-oo-k-ano	aabiníinii-m-a
know:NG-1SG.ERG-PST-if-SS	something-TNS-LINK-COMP-OBL.CONTR	chair-DEM-OBL

o-pataali-**l-ana-tok**
SUP-put-**1SG.ERG-MOD-PST**

'If I would have known, I would have put something on the couch.' (D_04-02-19_57)

I analyze each of these morphemes as spelling out a functional head on the clausal spine, as in (50). The lowest of these heads, Author, takes AspP as its complement.

(50) **Structure of main verb in (49)**



The most common tense suffixes are past *-tok* and 'default' *-h*, which covers non-past and recent past. The most common mood suffixes are future *-aachi*, possibility modals *-ana* and *-ahila*/*-ahina*, which mean something like 'can/could', and *-ahii*, which is usually found together with the negative adverbial suffix *-kiyo*. There are a variety of other tense and mood suffixes too—see Broadwell (2006:169-183) for a short overview. The only possible exponent of Author is *-li*, which only shows up when Author is able to Agree with an 1st-person singular argument with an [ERG] value—see Tyler (2019a) for further discussion of *-li* and the Author head.

We now turn to the C-domain, which is the rightmost part of the verb complex, corresponding to the highest part of the clause. In main clauses, the tense suffix may be followed by a suffix *-o* that marks yes-no questions, as in (51a), or by certain evidential suffixes may suffix after the tense morpheme, as in (51b. Evidential suffixes may also replace the tense morpheme, as in (51c-d).

(51) **Clause-typing and evidential suffixes**

a. *Áyittatóba ish íyatok̲o̲?*
aayittatóoba ish-iiya-tok-**o̲**
store 2SG.ERG-go-PST-**Q**
'Did you go to the store?' (F_10-09-18_8)

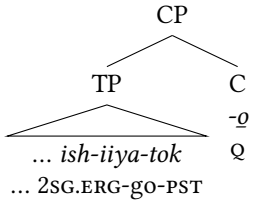
b. *Nita ho̲salitok okí.*
Nita ho̲sa-li-tok-**okíi**
bear shoot-1SG.ERG-PST-**indeed**
'I did indeed shoot the bear.' (D_10-23-18_6)

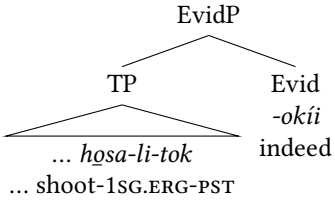
c. *Ak̲aka yásh apahnik.*
ak̲aka-yaash apa-**hnik**
chicken-PREV eat-**certain**
'He really did eat the chicken.' (D_10-19-18_94)

d. *… ish achokmálich̲i̲ni chíchok.*
… ish-achokmaali-ch̲i̲ni-**chiichok**[34]
2SG.ERG-like-FUT-**wonder**
'… I wonder if you'll like it.' (C_01-30-18_178)

I analyze the yes-no question suffix *-o̲* (sometimes *-a̲*) and the evidential suffixes as exponents of functional heads which take TP as their complement, as in (52).

(52) **Structure of (51a) and (51b)**

a.


b.


For those evidential suffixes that seem attach to some smaller part of the verb complex which excludes the tense suffix (e.g. (51c-d)), I assume that those Evid heads still select T, but that the suffix that we see is a portmanteau morpheme realizing both the Evid head *and* the T head.[35] I refer the reader to Broadwell (2006:184-200) for detailed discussion of evidentiality and illocutionary force in Choctaw.

The C domain in embedded clauses is fairly complicated.[36] In many embedded clauses it isn't possible to

34. Broadwell (2006:186) has *-chichook*, with reversed vowel lengths from the form I recorded.

35. I remain neutral on how exactly this should be formalized. We could imagine that Evid and T form a 'span', in the sense of Svenonius (2012 et seq.), or that certain Evid heads condition a zero-realization of the T head. Alternatively, it could be that certain Evid heads select for complements other than TP, e.g. AuthorP or AspP.

36. Munro (1983), describing Chickasaw, states that there is a "bewildering array of subordinating markers". Ulrich (1986:112-3, fn.11) makes the following remark about the post-tense field within the verb complex (for him, 'subordinators'):

> Aside from main verb endings (*-h*, *-'*, and *-tok*) and switch-reference morphemes (*-t*, *-ch* (realized syllable-finally as *-sh*), and *-n*), only /k, p, m, oo, a, aa/ occur in Choctaw subordinators, and these occur in a great many combinations. In most subordinators, a number of short possible morphemes can be identified, leaving similarly short unidentified strings in between. The internal structure of subordinating suffixes is beyond the scope of this dissertation.

It is also, unfortunately, beyond the scope of this dissertation too.

nicely separate out the component morphemes in C, though one can often identify a complementizer and a switch-reference marker. Examples of this are given in (53).

(53) **Verbs with complementizers + SR morphemes**

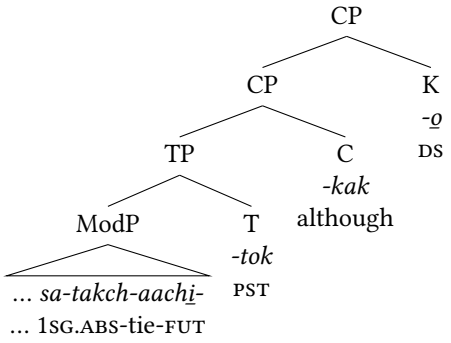
a. *Okla sa takcháchi̲tok ako̲ sa lhako̲fatok.*
okla=sa-takch-aachi̲-to-**kak-o̲** sa-lhaako̲fa-tok
PL=1SG.ABS-tie-FUT-PST-**although-DS** 1SG.ABS-save.NACT:NG-PST
'They were going to get me but I was saved.' (A_10-10-18_6)

b. *Hattak mat oka yanalli ma̲ áska̲na hátokósh im alhtobatok.*
hattak-m-at oka yanállii-m-a̲ aask-a̲na-h-**aatok-oosh** im-alhtoba-tok
man-DEM-NOM water flow.NMZ-DEM-OBL fix-MOD-TNS-**because-SS** DAT-pay.NACT-PST
'That man fixed our running water so he got paid.' (D_10-19-18_39)

See §2.7.3 and Broadwell (2006:264) for a list of complementizers.

I assume that the complementizer projects a CP, while the switch-reference marker is an exponent of a *K* head that is sprouted onto CP in the morphological component of the grammar (via *Dissociated Node Insertion*, cf. §1.3.4). The syntactic structure of the embedded clause in (53a), following the insertion of this K node, is in (54).

(54) **Structure of embedded clause in (53a)**



K can sprout onto a complementizer, creating a switch-reference marker, *and* onto the topmost head in the extended projection of the NP, creating a case marker.[37]

By invoking the same node K in both domains, we account for the whole-paradigm syncretism that exists between case and SR marking in Choctaw. See §2.6.1 for discussion of K-sprouting in NPs, and §2.7.3 for more detailed discussion of case/switch-reference syncretism in Choctaw.

Some combinations of T and C lead to unexpected morphological outputs. For example, when past tense T *-tok* is followed by a complementizer beginning with *k*, the double-*k* sequence is reduced to a single *k*. An

37. It is also possible for a focus marker *-ak* to show up between the complementizer and the switch-reference marker (e.g. (120)). This is another of the ways in which the functional structure at the edge of the clause is parallel with the functional structure at the edge of the NP—see §2.7.

example of this is in (53a), where *-tok* plus *-kak* 'although' becomes *-tokak*.[38] Another class of unexpected outputs comes when the default tense marker *-h* combines with certain complementizers. *-h* cannot be followed directly by a consonant, and so if we attempt to put a consonant-initial complementizer after *-h* we see two kinds of outputs. Sometimes the complementizer 'swallows' the tense morpheme, as in (55).

(55) **Complementizer 'swallows' tense morpheme**

a. *Isht ataklamáchi̲kma̲ im anóli sanna kiyoh.*
isht=ataklam-aachi̲-**km**-a̲ im-anooli sa-nna-kiyo-h
INSTR=worry-FUT-**if**-DS DAT-tell.ACT 1SG.ABS-want-not-TNS
'If she's going to worry about it, I don't want to tell her.' (E_08-22-17_75)

b. *Hattak mat ili̲ ikka̲nah, aba̲na kat.*
hattak-m-at ili̲-ikká̲na-h, ab-a̲na-**k**-at
man-DEM-NOM REFL.DAT-know:NG-TNS kill-MOD-**COMP**-SS
'That man knows he can win.' (D_04-15-19_91)

Other times, a mysterious 'linker' morpheme *-o(o)-* appears, separating *-h* from the complementizer:

(56) **'Linker' *-o(o)-* intervenes between tense morpheme and complementizer**

a. *Si awa̲t ish íya hókmat, toshpah!*
si-awa̲t ish-iiya-h-**oo**-km-at, toshpa-h
1SG.ABS-along.with 2SG.ERG-go-TNS-**LINK**-if-SS quick-TNS
'If you are going with me, hurry up!' (C_02-08-18_41)

b. *Kocha at oklhilíka hóka̲ ikka̲nalih.*
kocha-at oklhiliika-h-**oo**-k-a̲ ikká̲na-li-h
outside-NOM dark-TNS-**LINK**-COMP-DS know:NG-1SG.ERG-TNS
'I know it's dark outside.' (A_04-04-19_51)

The difference between these two outputs—whether it reflects a different underlying syntax/semantics or is purely morphological—requires further investigation (see also Byington 1870:350).

Finally, there are two suffixes *-cha* and *-na*, which replace the tense morpheme, complementizer and switch-reference morpheme (and possibly the Mod morpheme too—see Linker 1987). They also force the verb stem into a grade form—most commonly the l-grade. Their use is illustrated in (57).

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38. A consequence of this is that when *-tok* is followed by the complementizer *-k*, the complementizer is absent from the phonological output. We only know that *-k-* must be there because it triggers the insertion of a neutral case/SR-marker, as in (i.a). By contrast, case/SR-markers appended directly after the tense morpheme show up as special case markers, as in (i.b).

(i) **Presence of complementizer *-k* is diagnosable by following SR marker**

a. *Kaníchish michchilitokat ak ikka̲noh …*
kániichi-sh michchi-li-**to-k-at** ak-ikká̲n-o-h …
do.something-PTCP do-1SG.ERG-**PST-COMP-SS** 1SG.IRR-know:NG-NEG-TNS
'I don't know how I did it…' (D_10-23-18_5)

b. *Chokka ikbáchi̲hósh iti taptolitok.*
chokka ikb-aachi̲-**h-oosh** iti taptoli-tok
house make-FUT-**TNS-SS** tree cut.ACT-PST
'They cut down trees to build a house.' (A_10-10-18_57)

(57) ***-cha* and *-na***

a. *Tamáha kil íyacha shilosh himóna kí chopa.*
tamaaha kil-íiya-**cha** shilosh himóona kí-chopa.
town 1PL.IRR-go:LG-**and.ss** shoe new.NMZ1PL.IRR-buy
'Let's go to town and buy new shoes.' (C_02-08-18_234)

b. *Ittim anopolina ahchihbatok.*
ittim-anopóli-**na** ahchíhba-tok
RECIP.DAT-speak:NG-**and.DS** time.pass.NACT:HG-PST
'They talked for a while.' (B_10-16-19_75)
(lit. 'They were talking and time passed.')

See Broadwell (2006:263-302) for in-depth discussion of the composition of the C domain in Choctaw embedded clauses, included a more complete list of complementizers.

We have almost finished a first-pass analysis of the suffixes in the verb complex, gliding over a large number of complexities. I discuss two more issues here: verb-internal 'adverbs', and the morpho-syntactic status of the clausal spine. Regarding verb-internal adverbs, or 'adverbial suffixes', Broadwell (2006:316) notes that they can show up in three positions, schematized in the template in (58).

(58) **Positions for adverbial suffixes**

STEM-**ADV$_1$**-MOD-**ADV$_2$**-TNS-**ADV$_3$**-C

An example of an adverbial suffix in each position is provided in (59).

(59) **Three positions for adverbial suffixes**

a. *Ish kaníya hokma ishla momáchi ho?*
ish-kaniiya-h-o-km-a ish-la-**móm**-aachi-h-o
2SG.ERG-leave-TNS-LINK-if-DS 2SG.ERG-come-**again**-FUT-TNS-Q
'If you go, will you come back again?' (E_08-22-17_123)

b. *Akaka nipi makalla ho apaláchi malhlhih.*
akaka nípi-m-ak álla-h-o apa-l-aachi-**malhlhi**-h
chicken meat-DEM-FOC only-TNS-DS eat-1SG.ERG-FUT-**truly**-TNS
'I'm really only going to eat chicken.' (Broadwell 2006:321)

c. *Na michchitok kiyo ka ikkanalih.*
náa michchi-tok-**kiyo**-k-a ikkána-li-h
NPI do-PST-**not**-COMP-DS know:NG-1SG.ERG-TNS
'I know he didn't do it.' (C_02-08-18_114)

I assume that the verb-internal adverbs realize additional functional heads on the clausal spine. In addition, Broadwell (2006:316-327) shows that certain adverbial suffixes can be merged in more than one position, so there is a degree of freedom in the order in which these 'adverbial' heads may be merged.[39]

I now turn to the question of the morphosyntactic status of the clausal spine. Given a surface form like

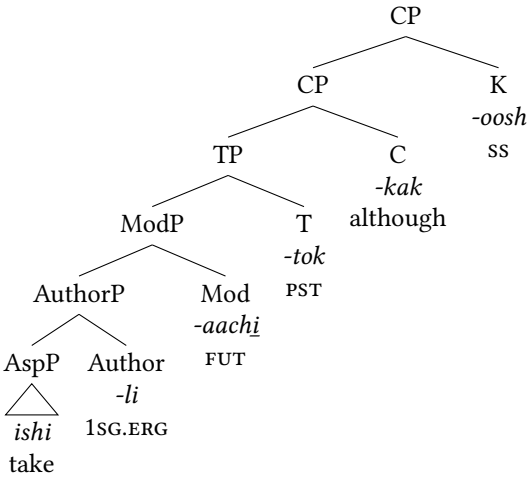
39. It is interesting that many of the adverbial suffixes resemble freestanding verbs. For instance, *móma* is a quantifier verb meaning 'to be all', and *kiyo* means 'to not be so/do so'.

(60a) and syntactic structure like that in (60b), is there a reason to posit any further syntactic or morphological operations?

(60) **Verb in embedded clause**

a. *Ishílách<u>i</u>tokakósh …*
ishii-l-aach<u>i</u>-to-kak-oosh …
take-1SG.ERG-FUT-PST-although-SS
'Although I was reaching for it…' (D_04-15-19_58)

b.



The null hypothesis is that no further syntactic or morphological operations take place, and the verb complex remains a non-constituent. The heads in the clausal spine are simply pronounced left-to-right, lowest to highest. However, syntactic theory provides us with another option: head-movement. I remain agnostic as to whether any head-movement happens above AspP, but I *do* propose that there is some head-movement of the functional heads in the lower end of the clausal spine, within the AspP domain. This is discussed in the next part of the section, which deals with some of the pre-stem elements within the verb complex.

Finally, now that we have motivated an array of functional heads that make up the clausal spine, the question arises as to whether we can identify any of them as the subject-hosting head, given the placeholder label 'Subj' in §2.3.1. I defer this question until §2.5.4, after we have analyzed the verbal prefixes and aspectual grade morphology.

2.5.2 Prefixes

The prefixal part of the verb complex template, between the proclitics and the stem, is expanded in (61).

(61) **Template for verb complex (prefixes expanded)**

PROCLITICS-**ERG/IRR-ABS/DAT-APPL**-<u>STEM</u>-SUFFIXES
ASP

At least three clear prefixal 'slots' can be identified: one for ERG and IRR clitics, one for ABS and DAT clitics, and one for APPLicative morphemes. Here, I first provide a brief description of the argument-doubling clitics and applicatives, before moving onto an analysis of how they end up in their positions within the verb complex.[40]

A verb complex with an ERG clitic is illustrated in (62a). IRrealis clitics replace ERG clitics on jussive verbs and negative verbs, as in (62b-c).

(62) **ERG and IRR clitics**

a. *Chishnásh ish balílitok o̲?*
chishn-aash ish-baliili-tok-o̲
you-PREV 2SG.ERG-run-PST-Q
'Did YOU run?' (E_30-05-17_70)

b. *Ak balílo ki̲shah.*
ak-balíil-o-k-i̲sha-h
1SG.IRR-run:LG-NEG-NEG-yet-TNS
'Have you run yet?' (J_07-21-16_3)

c. *Ak balíli!*
ak-baliili
1SG.IRR-run
'Let me run!' (J_07-07-16_30)

Following the ERG/IRR clitics we find ABS or DAT clitics, as in (63).[41]

(63) **ABS and DAT clitics**

a. *Ish pi pi̲sah̲a̲?*
ish-**pi**-pí̲sa-h-a̲
2SG.ERG-**1PL.ABS**-see:NG-TNS-Q
'Did you see us?' (N_06-01-17_65)

b. *Ná chinnakm̲a̲ í chim̲a̲nah.*
naa chi-nna-km-a̲ ii-**chim**-Ø-a̲na-h
thing 2SG-want-if-DS 1PL.ERG-**2SG.DAT**-give-FUT-TNS
'We'll give you anything you want.' (E_01-31-18_111)

A table containing all the forms of the ERG, IRR, ABS and DAT clitics is provided in (64). Note also that the

40. The term 'clitic' is unfortunately overstretched across syntax, morphology and phonology. In this section I make use of the term when discussing 'argument-doubling clitics', which fall within the prefixal domain in the verb template, and 'proclitics', which are found at the extreme left edge of the verb template. Argument-doubling clitics are defined by their syntactic properties, outlined in §1.3.3, but we would not necessarily expect them to show consistent morphophonological behavior within and across languages. Indeed, Broadwell (2006:22) shows that ABS clitics fall within the phonological domain over which iambic lengthening is computed, while ERG clitics do not. By contrast, phonological clitics, including the proclitics discussed here, are defined by their morphophonological status, and realize a range of syntactic categories and functions. Choctaw proclitics include an extrinsic plural marker, an instrumental applicative, and particles indicating direction. Argument-doubling clitics can be phonological clitics but need not be, and phonological clitics can be argument-doubling clitic but need not be.

41. In Tyler (2019a) I show that combinations of two ABS/DAT clitics are possible in the event that the higher of the two arguments, corresponding to the rightmost clitic, is 1st-person singular. The analysis in that paper involved the exceptional 1SG clitic essentially being 'rescued' by the Author head which typically hosts 1SG.ERG agreement (on which see §2.5.1). See the full paper for details.

traditional terms for ERG, ABS and DAT clitics are Classes I, II and III, respectively (§1.2.4).

(64) **Full paradigms of argument-indexing clitics**

	ERG (I)	IRR	ABS (II)	DAT (III)
1SG	-li	ak-	sa-/si-	(s)am-
2SG	ish-	chik-	chi-	chim-
1PC	ii-/il-	kii-/kil-	pi-	pim-
1PL	ii-/il-	kii-/kil-	hapi-	hapim-
2PL	hash-	hachik-	hachi-	hachim-
3	–	ik-	–	im-

Following the ABS/DAT clitics we find applicative morphemes, such as the locative applicative in (65a), or the comitative applicative in (65b). In the presence of an applicative, the ABS or DAT clitic is assumed to index the applied argument.[42]

(65) **Applicative prefixes**

a. *Mary im allat sabá to̲ksalih.*
Mary im-alla-t sa-**baa**-to̲ksali-h
Mary DAT-child-NOM 1SG.ABS-COM-work-TNS
'Mary's son is working with me.' (A_08-19-17_48)

b. *Anáko̲ issam áyishitok.*
an-aak-o̲ is-**sam**-**aay**-ishi-tok
me-FOC-OBL 2SG.ERG-**1SG.DAT**-**LOC**-get-PST
'You got that from me.' (D_04-15-19_44)

Let's now turn to a sketch of a morphosyntactic analysis for the prefixes. In §1.3.3 I outlined the syntactic assumptions about clitic-doubling that hold in this dissertation. Crucially, clitics must adjoin to a head that c-commands their NP associate. Following Tyler (2019a), I assume that argument-doubling clitics are hosted at two functional heads, which I label Host 1 and Host 2.[43] External arguments, merged in Spec-VoiceP, clitic-double to Host1. External arguments generally end up with [ERG] case (see chapter 4), so we can think of Host1 as the home of ERG clitics and their IRR counterparts (1SG external arguments are exceptional, triggering agreement at Author rather than clitic-doubling at Host1—see §2.5.1). By contrast, internal arguments, including theme arguments merged in Spec-vP and applied arguments merged in Spec-ApplP, clitic-double to Host2, which is located below Voice. Internal arguments are generally ABS or DAT (though some are ERG—see chapter 4).[44] Thus we can think of Host2 as the home of ABS and DAT clitics. As

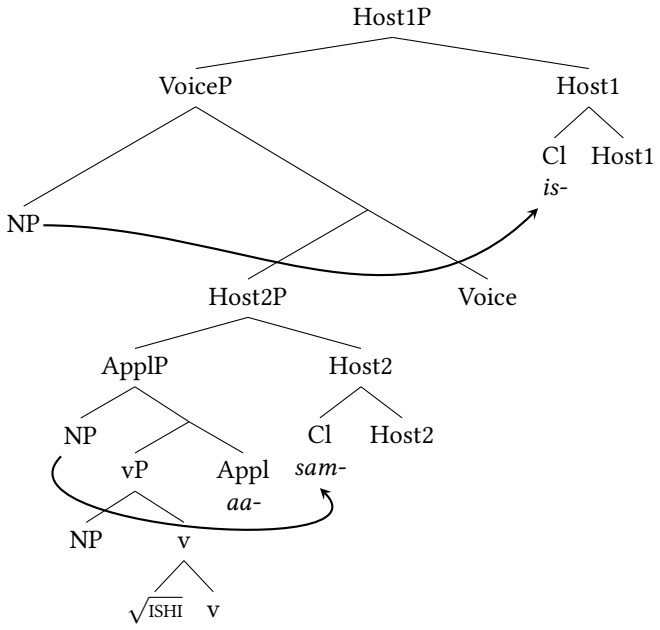
42. Some authors assume that the DAT clitics can be decomposed into an ABS clitic followed by an applicative morpheme *-m-*. While this decomposition is well-motivated, it cannot be the case that the /m/ of the DAT clitics is the exponent of the applicative head, since the /m/ can co-occur with an overt applicative prefix, as in (65b). A more promising route might be to analyze the /m/ as an exponent of a [DAT] case morpheme within the clitic itself, on which see chapter 5.

43. In Tyler (2019a) I in fact claimed that external arguments clitic-double to the Voice head itself. I abandon that claim here because it makes it hard to derive the correct order of elements within the verb complex.

44. Clitics with a [DAT] case value end up realized as DAT clitics. There is no '[ABS]' feature or value—ABS clitics are those which lack

for the applicative morpheme, I take it to be an exponent of the Appl head itself. The example sentence in (65b) has all three prefixal slots filled, and its syntactic structure is schematized in (66)

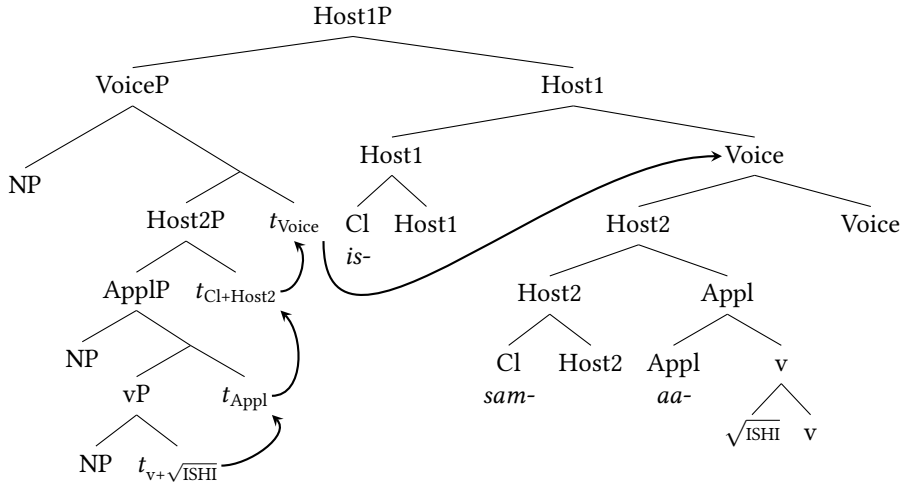
(66) **Structure of (65b) with clitic hosts shown**



How do argument-doubling clitics and applicative heads end up to the left of the $\sqrt{\text{ROOT}}$ and the Voice head? They are interleaved on the clausal spine, so it cannot be the case that each head is simply pronounced *in-situ*, lowest to highest, left to right. I propose that the correct ordering of elements within the verb complex is at least partly the result of head-movement. The heads in the clausal spine undergo roll-up movement at least as far as Host1. v right-adjoins to Appl, Appl right-adjoins to Host2, Host2 *left*-adjoins to Voice, and Voice right-adjoins to Host1 (there is no overt suffixal voice morphology in these examples, but see §1.2.2-1.2.3 and chapter 3 for various verb stems where Voice is overt). The end result of this series of head movements is schematized in (67). Note that the direction of adjunction in these movements is arbitrary, and its only motivation is to get the prefixes in the right order.

an [ERG] or [DAT] value.

(67) **Structure of (65b)/(66) with head-movement shown**



The order of the terminals in the complex head at Host1 is now as in (68), reflecting the linear order of prefixes that we see in the verb complex (cf. (61)) (Host1 and Host2 are always phonologically null).

(68) **Linear order of terminals inside complex head at Host1**
Cl-(Host1)-Cl-(Host2)-Appl-$\sqrt{\text{ROOT}}$-v-Voice

In most of the trees in this dissertation, I do not include the clitic-hosting heads Host1 and Host2, and I do not show head-movement on trees. This is in the interests of reducing visual clutter, but also because there are several plausible alternative analyses that would yield the same surface order of morphemes.[45]

Before moving onto proclitics in the next part of this section, I provide a brief account of the IRRealis clitics, which replace the ERG clitic series in jussive clauses and clauses with low negation.[46] I propose that IRR clitics are a portmanteau realization of an ERG clitic in the context of a special Irrealis head, which is merged above Host1 in jussive clauses and clauses with low negation. If no clitic is merged at Host1, the Irrealis head is simply spelled out as *ik-*. This happens in clauses with 3rd-person ERG subjects, *and* in clauses with ABS/DAT subjects, as in (69).

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45. One alternative would be that the morphemes in the verb complex, including the prefixes, are *in-situ*. This would require making two assumptions: (a) the projections of Host1, Host2, and Appl are left-headed while Voice and all higher projections are right-headed, and (b) all internal arguments vacate Host1P, so that they always appear to the left of the leftmost head in the verb complex. Point (a) is typologically hard to justify in light of the so-called *Final-Over-Final Constraint* on syntactic structure-building (Biberauer et al. 2014, Sheehan et al. 2017). Point (b) is hard to reconcile with the existence of a clear 'middle field' domain in Choctaw, on which see §2.4. However, neither of those objections are insurmountable. There are also various proposals on the market for how a sequence of heads on a clausal spine might be turned into a syntactic or morphological constituent, *other* than syntactic head-movement. These include spanning (Svenonius 2012 et seq.), postsyntactic amalgamation (Harizanov and Gribanova 2019), coalesence (Hsu to appear), and various others. This issue requires further investigation.

46. Choctaw has two ways of negating sentences. Low negation involves an IRR clitic, a suffix *-o*, and putting the verb in the l-grade (see §2.5.4). Sometimes there is an additional negative suffix *-k* (cf. (62b)). High negation employs an adverbial suffix *-kiyo* (cf. (59c)). The difference between the two requires further investigation (see Broadwell 2006:148-150).

(69) **Default IRR morpheme *ik-* inserted in absence of ERG clitic**

a. *Ik sallotok.*
ik-sá-ll-o-tok
IRR-1SG.ABS-die:LG-NEG-PST
'I didn't die.' (D_04-15-19_11)

b. *Ik sam achokmoh.*
ik-sam-achókm-o-h
IRR-1SG.DAT-happy:LG-NEG-TNS
'I'm sad.' (I_08-16-17_3)

If an ERG clitic *is* merged at Host1, then the complex head at Host1 raises to Irrealis. Then Irrealis plus the ERG clitic are, together, realized as as the IRR clitic series (as in (64), with examples in (62b-c)).

2.5.3 Proclitics

In this section, I discuss the inhabitants of the leftmost edge of the Choctaw verb complex: a set of items I call 'proclitics'. They include the extrinsic plural marker *okla*, the directional particles, and the syntactically-idiosyncratic instrumental applicative *ish(i)t*. I discuss these items in turn.

Okla, which I introduced in §2.3.1, is a verbal proclitic that co-occurs with a plural argument—typically the subject. The final /a/ appears when *okla* is followed by a consonant, as in (70a), and *generally* disappears when it is followed by a vowel, as in (70b).[47] I write a '=' symbol between proclitics and their hosts in the morpheme-by-morpheme transcription.

(70) ***okla* associates with plural subjects and procliticizes to verb**

a. *Nakni mą hicha į nakfi hat nakni mą okla boolitok.*
nákni-m-ą hicha į-nakfih-at nákni-m-ą **okla**=booli-tok
boy-DEM-OBL and DAT-brother-NOM boy-DEM-OBL **PL**=beat.ACT-PST
'That boy and his brother beat up this other boy.' (E_01-31-18_27)

b. *Kashápa illa oklí talówáchįh.*
kasháapa illa **okl**=ii-taloow-aachį-h
part only **PL**=1PL.ERG-sing-FUT-TNS
'We're only going to sing part of it.' (A_10-25-18_85)

Broadwell (2006:239-240) characterizes *okla* as associating only with subjects and only with animates, though in Tyler (2019b) I show that these restrictions do not hold for many contemporary speakers of Mississippi Choctaw. (71a) shows that *okla* can associate with an inanimate plural subject, and (71b) shows that it can associate with 2nd-person objects (it can associate with 1st-person objects too).[48]

47. Broadwell (2006), following most work preceding him, writes the extrinsic plural marker as *oklah*. However, if it was *oklah* we might expect the /h/ to be realized when it is followed by a vowel. Instead, the final vowel of *okla* usually deletes, as in (70b). Also, when *okla* is followed by a pause, a glottal stop is typically inserted—this would be unexpected if *okla* ended in an underlying /h/ (see §2.2.2 for discussion of glottal stop insertion).

48. Broadwell (2006:239) shows that *okla* can also show up between the subject and objects, at the 'VP' edge, as in (i). The speakers I

(71) ***Okla* has a wider distribution that recorded in Broadwell (2006)**

a. *Iti yat okla cháhah.*
itii-yat **okla**=chaaha-h
tree-NOM **PL**=tall-TNS
'The trees are tall.' (A_06-08-17_4)

b. *Bill at okla hachi pi̲satok.*
Bill-at **okla**=hachi-pí̲sa-tok
Bill-NOM **PL**=2PL.ABS-see:NG-PST
'Bill saw us all.' (N_06-07-17_122)

Choctaw has a series of directional particles that appear on the left edge of the verb and add directional information. Broadwell (1998, 2006:257-261) shows that some directionals (*iit* 'towards', *pit* 'away') add direction to the event or state denoted by the verb. Other directionals (*o̲t* 'go and', *a̲t* 'come and') add a new event of motion distinct from that denoted by the following verb. (72) shows an example with each of the two classes of directional particle.

(72) a. *Chishakba áhottopa ya̲ issis okpolot sallahat ít kochchah.*
chi-shakba aahottópa-ya̲ issis okpólo-t sállaha-t **iit** kochcha-h
2SG.ABS-arm sore-OBL blood break.NACT.NMZ-NOM slow:YG-PTCP **away** go.out-TNS
'Pus slowly came out of the sore on your arm.' (A_04-02-19_73)

b. *Alahmato píh o̲t binílitok.*
ala-hm-ato piih **o̲t** biniili-tok
arrive-when-SS just **go.and** sit-PST
'When she arrived she just went and sat down.' (B_04-04-19_60)

The directional particles are diachronically related to Choctaw's motion verbs, and end in *-t*, which is used in Choctaw as a participial suffix (cf. §2.4). Ulrich (1986) refers to them as 'participial clitics'. But whether or not they are synchronically full participles, they perform a similar semantic function, and it is helpful to think of them as grammaticalized, 'functional' participles with a restricted distribution. See Ulrich (1986:276-277), Broadwell (1998) and Broadwell (2006:257-261) for further discussion.[49]

The third proclitic discussed here is the instrumental applicative morpheme *ish(i)t*. Its use is illustrated in (73).

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consulted found these kinds of sentences fairly odd, and never produced them.

(i) hattak-at okla ta̲chi apa-tok
man-NOM PL corn eat-PST
'The men ate the corn.' (Broadwell 2006:239, edited)

49. Although I classify the directional particles as 'proclitics', I do not connect them to their host with an orthographic '=', for convenience.

(73) *Bashpo ishit bashlitok.*
bashpo **ishit**=bashli-tok
knife **INSTR**=cut.ACT-PST
'She cut it with a knife.' (E_01-31-18_41)

Ish(i)t has a different distribution within the verb complex from the other applicative prefixes discussed in §2.5.2. Like the other applicatives, it may appear in the prefixal domain, in the 'APPL' slot that immediately precedes the verb stem, as in (74a). But it may also appear *before* the ERG clitic, as in (74b)

(74) **Order of *ish(i)t* and ERG clitic varies**

a. *Ná l̲a̲wa chokfi i̲ hákshop ish isht ikbi̲nah.*
naa lá̲wa chókfi i̲-hákshop ish-**isht**=ikb-i̲na-h
thing many:NG rabbit DAT-skin 2SG.ERG-**INSTR**=make-MOD-TNS
'You can make a lot of things with rabbit skin.' (E_08-09-17_4)

b. *Hapibbak isht il achífatok.*
hapi-bbak **isht**=il-achiifa-tok
1PL.ABS-hand **INSTR**=1PL.ERG-wash-PST
'We washed it with our hands.' (B_10-15-19b_12)

Like the directional particles, *ish(i)t* is clearly diachronically related to a participial (*-t*) form of a verb (*ishi* 'take/hold'). Thus it could also be considered a grammaticalized, 'functional' participle with a restricted distribution.[50]

Where a verb complex has multiple proclitics, their order is somewhat variable. Some examples of this variability are given in (75). The three chosen examples show that there cannot be a fixed order of proclitics.

(75) **Order of proclitics is not fixed**

a. okla>isht
Okla isht í chim ónatok.
okl=**isht**=ii-chim-oona-tok
PL=**INSTR**=1PL.ERG-arrive.there-PST
'We brought it to you.' (A_01-30-18_107)

b. isht>o̲t
Isht o̲t imálitok.
isht=**o̲t**=im-aa-li-tok
INSTR=**go.and**=DAT-give-1SG.ERG-PST
'I went and gave it to her.' (A_06-12-17a_50)

50. In §3.7.5, I show that non-active verbs *without* implicit agents are nonetheless compatible with the addition of an instrumental applicative. One potential account of this fact is that the agentive component of the meaning of *ishi* 'take' is still present in the applicative *ish(i)t*, in some way.

c. o̲t>okla
Lincoln im áholloppi o̲t okla í pi̲satok
Lincoln im-aahollóppi **o̲t=okla**=ii-pí̲sa-tok[51]
Lincoln DAT-tomb **go.and=PL**=1PL.ERG-see:NG-PST
'We went and saw Lincoln's tomb.' (F_06-07-17_102)

In terms of analysis, I do not offer anything worked out here. Some previous analyses of the proclitics exist: Broadwell (1998) proposes that the directional particles adjoin directly to the verb head (but there is no clear analogue to the verb head in the non-lexicalist framework assumed here). In Tyler (2019b), I proposed that *okla* is a right-adjoined adjunct to vP—the v and root move rightwards over it, explaining how it ends up on the left edge of the verb complex. However, this account is pretty speculative and various alternative analyses are possible.[52] I leave this issue to future work.

2.5.4 Aspectual grades

The Muskogean languages are renowned for their use of morphophonological templates, known as *grades*, to mark aspectual morphology. The aspectual grade system is one of the best-studied topics in Choctaw grammar (see Nicklas 1974:72-96, Ulrich 1986:161-233, Lombardi and McCarthy 1991, Broadwell 2006:161-168, among others). In this section, I give a short overview of Choctaw's grade system, and a *very* short sketch of a syntactic analysis.

Choctaw has between four and seven distinct grades, depending on how you count. All grade templates are applied to the verb stem—that is, the part of the verb complex that includes the root and any voice morphology, whose right edge is defined by the right edge of the final voice suffix. Anything after the final voice suffix—1SG.ERG agreement, mood, tense or other suffixes—is outside of the domain affected by the grade.

One of the most common grades is the n-grade, formed by nasalizing and pitch-accenting the penult of the verb stem. The examples in (76) contain verbs in the n-grade. It has a variety of semantic effects but they are united by 'stativity' of some kind. For instance, when added to change-of-state verbs as in (76a), the n-grade picks out the result state. When added to activity verbs as in (76b), it adds 'incomplete' or in-progress semantics (Nicklas 1974 calls it the 'incompletive').[53]

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51. This example illustrates that the /a/ of *okla* does not always delete before a vowel. Deletion is less likely to happen in careful speech.

52. The advantage to my analysis in Tyler (2019b) is that, from a vP-adjoined position, *okla* is c-commanded by external arguments and by those internal arguments that are clitic-doubled, but no other arguments—this accounts for the set of arguments it may associate with.

53. One interesting property of many n-grade forms, including (76a), is that they lack the implication of the event that is a necessary part of their zero-grade/unmodified equivalents:

(76) **N-grade**

a. *Kocha ápisa mat ti̲wah.*
kocha aapísaa-m-at tí̲wa-h
outside window-DEM-NOM open.NACT:NG-TNS
'The window is open.' (D_10-13-18_88)

b. Bá̲shli-h.
cut.ACT:NG-TNS
'He keeps cutting it.' (Ulrich 1986:169)

A number of verbs *only* appear in the n-grade, including verbs of perception (e.g. *pí̲sa* 'see', *há̲klo* 'hear'), many verbs of location (e.g. *binohmá̲ya* 'sit.PL', *kahmá̲ya* 'lie.PL'), and the indefinite verb *ná̲na* (cf. §2.7.1). I refer the reader to Nicklas (1974:74-76, 84-86), Ulrich (1986:169-172) and Broadwell (2006:161-163) for detailed discussion of the form and interpretation of the n-grade.

Another very common grade is the l-grade ('l' stands for 'lengthened'), formed by pitch-accenting the penult and lengthening it if it is an open syllable. It has no independent interpretation and very often co-occurs with the switch-reference suffixes *-cha* and *-na* (cf. §2.5.1 and §2.7.3):

(77) **L-grade**

a. *Pa̲shpoli ma̲ íshicha ofi ma̲ ishit bólih.*
pa̲shpólii-m-a̲ **íishi**-cha ofii-m-a̲ ishit=booli-h
sweep.NMZ-DEM-OBL **take:LG**-and.SS dog-DEM-OBL INSTR=beat.ACT-TNS
'Take the broom and hit the dog with it.' (C_02-05-18_215)

b. *Aka̲koshi car apakna bólina iláp alwashatok.*
aka̲koshi car apakna **bóoli**-na ilaap alwasha-tok
egg car top **put:LG**-and.DS self fry.NACT-PST
'She put the egg on top of the car and it fried by itself.' (E_10-10-18_16)

The l-grade is also implicated in the formation of negated verbs (which I also refer to as verbs with 'low' negation, in deference to the fact that there is at least one other way to negate a Choctaw verb). Negated verbs are formed by adding an IRRealis prefix to the verb, putting the stem in the l-grade, and adding a suffix *-o*, which then replaces the final vowel. An example is given in (78).

(i) a. *ikkana* 'learn'
ikká̲na 'know'

b. *fokka* 'put on'
fo̲kka 'wear'

c. *ittola* 'fall'
itto̲la 'lie'

d. *ishi* 'take'
íshi 'have'

(78) **L-grade is used in low negation**

a. *Aká palhkit pa̲shpolitok.*
aká palhki-t **pa̲shpoli**-tok
floor quick-PTCP **sweep.ACT**-PST
'They swept the floor quickly.' (E_10-14-18_24)

b. *Onnahi̲li pa̲ ik pa̲shpólo hósh …*
onnahi̲li-p-a̲ ik-**pa̲shpóol-o**-h-oosh …
morning-this-OBL IRR-**sweep.ACT:LG-NEG**-TNS-SS
'She didn't sweep up this morning and …' (D_10-13-18_66)

The other grade forms—the hn-grade, the h-grade, the g-grade, and the y-grade—occur less frequently in this dissertation and I provide a short description of each here. They generally introduce specialized and predictable semantics. The hn-grade (for Nicklas, the 'iterative') in (79a) adds a sense of repetition to the event and translates well as 'keep on V-ing'. The h-grade (for Nicklas, the 'instantaneous') in (79b) indicates a sudden start to the event. The g-grade and the y-grade (for Nicklas, different forms of the 'intensive'), as in (79c-d), both indicate either a delayed start to an event or a more intense state.

(79) **More grade forms**

a. hn-grade
Alla mat na̲na chohopali ka̲ okpaha̲nih.
allaa-m-at ná̲na chohópa-li-k-a̲ okpaha̲ni-h.
child-DEM-NOM something buy:**HNG**-1SG.ERG-COMP-DS break.ACT:**HNG**-TNS
'The kid keeps breaking the things I buy.' (A_04-04-19_68)

b. h-grade
Okkisa mat tihwah.
okkísa-m-at tíhwa-h
door-DEM-NOM open:**HG**-TNS
'The door suddenly opened.' (D_10-13-18_102)

c. g-grade
Pola̲k achchífalitok.
pola̲k áchchiifa-li-tok
finally wash.ACT:**GG**-1SG.ERG-PST
'I finally washed it.' (H_10-24-18_45)

d. y-grade
Anáto a̲ kafi losa achokmáhnilih.
an-aato a̲-kafi lósa achokmáàhni-li-h
I-NOM.CONTR 1SG.DAT-coffee black.NMZ like:**YG**-1SG.ERG-TNS
'I really like my black coffee.' (B_04-16-19_8)

By way of analysis, I propose that each grade template is the exponent of a functional head Asp, which sits north of Voice and south of Author (cf. §2.5.1), and introduces the appropriate aspectual semantics. The domain of application of the grade form (the stem) can be identified as the syntactic complement of Asp (the VoiceP). I do not provide an analysis of how the morphophonological template exponed at Asp

phonologically combines with the stem. Nicklas (1974), Ulrich (1986) and Lombardi and McCarthy (1991) both lay out the complex set of morphophonological rules that govern the application of the grade template to the form of the stem. See Kastner and Tucker (2019) for an overview of approaches to non-concatenative morphology within Distributed Morphology.[54]

At this point, we can return to a question I punted on in §2.3.1: can one of the functional heads identified in the clausal spine be demonstrated to be the subject-hosting head 'Subj'. A common way of determining the subject position in head-initial languages is to observe the linear position of the subject with respect to landmarks on the clausal spine, such as auxiliaries, adverbs and negation. If a subject appears to the left of an landmark, such as the auxiliary in the English sentence in (80), we assume the subject has moved past it.

(80) John$_i$ has t_i baked the cake.

However, since Choctaw is a head-final language, there are fewer landmarks available for use.[55] We must rely on other kinds of evidence.

The only kind of evidence I am aware of that provides some clues as to the identity of Subj(P) comes from the scope of negation. In particular, we know that low negation, expressed with an IRR prefix and the negative grade, takes scope over indefinite subjects. This is exemplified in (81).

(81) **Low negation takes scope over indefinite subject**

a. *Na kana yat akaka ikpotok.*
ná kána-yat akaka ík-p-o-tok
NPI someone-NOM chicken IRR-eat:LG-NEG-PST
'No-one ate the chicken.'
(not 'Someone/some people didn't eat the chicken.') (E_06-01-17_71)

b. *Ohóyo ma kanat okla ik ikkanoh tasibo hiyokma nanakma.*
ohooyo-m-a kána-t okla=ik-ikkáan-o-h tasibo hiy-o-km-a
woman-DEM-OBL someone-NOM PL=IRR-know:LG-NEG-TNS crazy LV-LINK-if-DS
nána-km-a[56]
something-if-DS
'No-one knows if that woman is crazy.'
(not 'Someone/some people don't know if that woman is crazy.') (D_04-15-19_116)

If the negative operator is introduced at Asp (or immediately above it), and if scope order reflects c-command order, then we are led to the interesting conclusion that the subject position (Spec-SubjP) is *very* low in the clause—around Asp or lower. I leave further investigation of Choctaw clause structure to future

54. Asp must be in a sufficiently close relation with the root that (a) roots can choose which Asp heads they may co-occur with, and (b) Asp heads may condition the interpretation of the root (cf. fn. 53). See chapter 3 for some discussion of domains of contextual allosemy.

55. As discussed earlier in this section, Choctaw does have some adverbs that hover around the edge of the VoiceP domain, but I have not looked into how they order with respect to the subject, in any more detail than that provided by Broadwell (2006:312-316).

56. Embedded questions in Choctaw have a somewhat elaborate structure in which the matrix verbs selects a *-km*-clause headed by the indefinite *nána*, which in turn embeds the indirect question as another *-km*-clause. See Broadwell (2006:270-272) for discussion.

work.

2.6 Non-verbal categories

So far in this chapter I have primarily discussed the composition of verb and the verb complex. This is because verbs take center-stage in this dissertation. In this section, I provide a brief overview of the syntax of the other major lexical category in Choctaw: nouns (§2.6.1). I then discuss some other categories that *may* exist in Choctaw: adjectives and quantifiers (§2.6.2), and adpositions (§2.6.3). In both cases, there are reasons to believe they are special classes of verb.

2.6.1 Nouns

In this section I discuss possession within noun phrases, and the nominal spine. Note that throughout this thesis I refer to noun phrases as NPs rather than DPs.[57]

Possessors within noun phrases precede the possessed noun, as in (82), and are indexed on it by an ABS or DAT clitic. A small set of semantically-inalienable possessors are indexed by ABS clitics, as in (83a). All other possessors are indexed by DAT clitics. This includes all alienable possessors, as in (83b), as well as various semantically-*in*alienable possessors, as in (83c) (I include *a-kánna* 'my friend' on the latter list because its near-synonym *sa-ttikánna* takes inalienable possession morphology).[58]

(82) **NP-internal possessor precedes head noun**

Lincoln im áyittola …
Lincoln im-aayittóla
Lincoln DAT-grave
'Lincoln's grave' (E_06-06-17_81)

(83) **Clitic on head noun reflects alienability of possession relation**

a. Inalienable possessors indexed with ABS clitic
sa-shakba / sa-shki / sa-hohchífo / sa-ttikánna
1SG.ABS-arm / 1SG.ABS-mother / 1SG.ABS-name / 1SG.ABS-friend
'my arm / my mother / my name / my friend'

57. I have not considered whether there is evidence pointing to a DP or NP analysis of Choctaw noun phrases. The analysis of nominal case-marking that I provide in chapter 6 assumes that the topmost head in the extended projection of the noun may be various different categories, including n, Foc and Dem. Furthermore, the category of argument-doubling clitics is often assumed to be D (see the references cited in §1.3.3 and §2.5.2). I remain agnostic on that front here, and represent clitics as category 'Cl'.

58. Nicklas (1974:48) and Broadwell (2006:57-58) show that there are also some semantically-inalienable nouns that vary between DAT and ABS possessor-indexing.

b. Alienable possessors indexed with DAT clitic

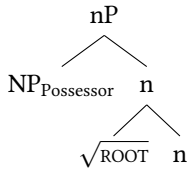
am-ófi / a-chokka / a-tali chanálli
1SG.DAT-dog / 1SG.DAT-house / 1SG.DAT-metal roll.NMZ
'my dog / my house / my car'

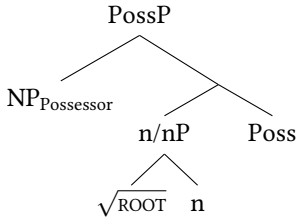
c. Inalienable possessors indexed with DAT clitic

a-ki / a-tiik / a-kána
1SG.DAT-father / 1SG.DAT-sister / 1SG.DAT-friend
'my father / my sister / my friend'

I follow the analysis of NP-internal possession which I proposed in Tyler (to appear), which is itself based on the analyses of Szabolcsi (1994), Barker (1995), Alexiadou (2003), and others. The basic idea is that semantically-inalienable possessors are introduced in the specifier of the categorizing head *n* (akin to internal arguments of verbs, introduced in Spec-vP), as in (84a). Semantically-*alienable* possessors, by contrast, require more functional structures, and are introduced in the specifier of a special head Poss, as in (84b).

(84) **Structures for inalienable and alienable possession**

a.


b.


Poss always assigns a [DAT] case value to its specifier, causing alienable possessors to be indexed by a DAT clitic as in (83b). n sometimes assigns a [DAT] value to its specifier but more often does not, hence the split between the DAT-indexed inalienable possessors in (83c), and ABS-indexed inalienable possessors, in (83a). I refer the reader to Broadwell (2006:53-63) and Tyler (to appear) for more discussion and analysis of NP-internal possession in Choctaw. Note also that because possessors are indexed by clitics, there must also be clitic-hosting heads internal to the NP, akin to Host1 and Host2 in the verbal domain (cf. §2.5.2). I do not provide an analysis here.

Let's turn now to the sequence of morphemes that show up at the right edge of the noun phrases—the 'nominal spine', similar to the clausal spine discussed in §2.5. The simplest template for a NP is shown in (85).

(85) **Template for simple NPs**

STEM-DEM-FOC-CASE

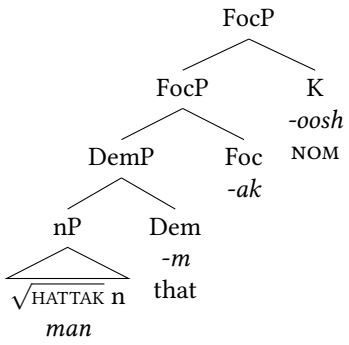
Each of these elements—the DEMonstative, FOCus-marker and CASE-marker—is optional. A noun phrase containing all three is the subject of the sentence in (86).

(86) **NP with DEM, FOC and case**

Hattak makósh apatok.
[$_{NP}$ hattak-m-ak-oosh] apa-tok
man-DEM-FOC-NOM.SP eat-PST
'That guy's the one who ate it.' (B_10-23-18_21)

The structure I assume for the subject in (86) is given in (87). Two things are worth noting about K, the head that is exponed as the case marker. Firstly, K also appears on CPs, where it marks switch-reference—see §2.5.1 for a brief overview and §2.7.3 for more detail. Secondly, just as when K shows up on CPs, K on nominals does *not* project its own phrase. I propose that K is sprouted as an adjunct to the topmost layer of the noun phrase (here, FocP) in the postsyntactic, morphological component of the grammar (via *Dissociated Node Insertion*, cf. §1.3.4).

(87) **Structure of (86)**



In addition to these functional heads, I assume that NPs which undergo A'-movement are contained within a 'QP', on which see Cable (2007, 2010a,b). The utility of Q in explaining the distribution of overt case-marking in Choctaw, along with the mechanics and triggering environments for K-sprouting, is discussed in depth in chapter 6.

Case-markers come in three main flavors: neutral, contrastive and 'special' (all of which also show up as switch-reference markers, cf. §2.7.3). The forms of the case-markers are shown in (88).

(88) **'Flavors' of case-marker**

	Nominative	Oblique
Neutral	-at/-t	-a
Contrastive	-ato	-ano
Special	-oosh	-o

The neutral case-markers (*-at*/*-a*) are the most common, and appear after bare noun stems and demonstratives, as in (89). The contrastive case-markers are formed by adding *-o* to the end of the neutral case-markers, as in (90) (they are sometimes written *-atoh*/*-anoh*).

(89) **Neutral case-markers**

a. *Alla yat holisso i̲ kaníyatok.*
alla-yat holisso i̲-kaniiya-tok
child-NOM book DAT-lose-PST
'The child lost the book.' (F_06-15-17_74)

b. *Mary at chokfi ma̲ pi̲sah.*
Mary-at **chókfi-m-a̲** písa-h
Mary-NOM **rabbit-DEM-OBL** see:NG-TNS
'Mary saw that rabbit.' (I_08-09-17_48)

(90) **Contrastive case-markers**

a. *Kíyo, Bill ato car i̲-hiki̲yah.*
kiiyo, **Bill-ato** car i̲-hiki̲ya-h
no **Bill-NOM.CONTR** car DAT-stand:NG-TNS
'No, BILL has a car.' (A_08-17-17c_2)

b. *Bálokka mat John im o̲ssih ihókakósh Billy ano im alhpísah.*
baalokka-m-at John im-ó̲ssi-h i-h-oo-kak-oosh **Billy-ano**
pants-DEM-NOM John DAT-small:NG-TNS LV-TNS-LINK-although-SS **Bill-OBL.CONTR**
im-alhpiisa-h
DAT-right-TNS
'Those pants are too small for John but they're right for Billy.' (C_06-14-17_39)

The special case-markers appear after the focus suffix *-ak*. They may also be appended to the bare noun stem. In both cases they add a kind of focus meaning (I can't provide a more precise semantic characterization at this stage). Some examples are given in (91).

(91) **Special case-markers**

a. *Loren akósh katos i̲ ma̲yah.*
Loren-ak-oosh kátos i̲-má̲ya-h
Loren-FOC-NOM.SP cat DAT-be.PL:NG-TNS
'LOREN has cats.' (E_08-16-17_36)

b. *Chahi hót álacha ano̲ti, chito yo̲ sanna hókí!*
chahi hoo-t áala-cha ano̲ti **chíto-yo̲** sa-nna-h-ookíi[59]
hoe find-PTCP come:LG-and.SS and **big.NMZ-OBL.SP** 1SG.ABS-want-TNS-indeed
'Go get a hoe, and I want a big one!' (D_10-23-18_20)

The distribution of nominative vs. oblique marking tracks the distinction between subjects and non-subjects, up to a point, but as I showed in §2.3.2 there are non-subjects, including objects and 'possessor topics', that can be marked as nominative too. The distribution of nominative vs. oblique marking is one of the main foci of chapter 6.

As mentioned earlier, each of these case-markers—neutral, contrastive and special—can *also* appear as

59. After uttering the first clause the speaker paused and, I believe, revised her sentence plan, explaining the unmotivated use of the same-subject marker.

the rightmost suffix on an embedded clause, where it marks switch-reference rather than case. This bi-functionality of the case/switch-reference morphemes can lead to a degree of 'fuzziness' about what constituents are NPs and what are clauses. See §2.7 for discussion of some constituents of uncertain clausal vs. nominal status, and see §2.7.3 for discussion of the switch-reference system in more detail.

Finally, there are a couple of morphemes that occur in place of the case-markers and neutralize the distinction between nominative and oblique. One such morpheme is the suffix *-aash*, which Broadwell (2006:89-91) analyzes as a 'previous mention' marker. It can follow the head noun, as in (92a), or a demonstrative, as in (92b).

(92) **Previous-mention marker *-aash* neutralizes nominative vs. oblique case**

a. *Akaka yásh apahnik.*
akaka-**yaash** apa-hnik
chicken-PREV eat-certain
'He really did eat the chicken.' (D_10-19-18_94)

b. *Átobli másh akammih.*
aatóbli-m-**aash** akammi-h
button-DEM-**PREV** close.ACT-TNS
'The button closes it.' (A_10-09-18_86)

-Aash is also used in the formation of relative clauses, alongside the complementizer *-k*, as in (93).[60]

(93) **Previous-mention marker *-aash* used to form relative clauses**

a. *Bill at ofit kopóli kásh i nokshópah.*
Bill-at [ofi-t kopooli-k-**aash**] i-nokshoopa-h
Bill-NOM dog-NOM bite-COMP-**PREV** DAT-scare.NACT-TNS
'Bill's scared of the dog that bit him.' (A_06-12-17a_47)

b. *Piláshásh fokka lobo pisali kásh ma chopalitok.*
[piláashaash fokka lobo písa-li-k-**aash**] -m-a chopa-li-tok
yesterday shirt round buy:NG-1SG.ERG-COMP-**PREV** -DEM-OBL buy-1SG.ERG-PST
'I bought the shirts I saw yesterday.' (D_04-02-19_63)

-Kia 'also/too' similarly neutralizes the nominative/oblique distinction, and generally attaches after the focus marker *-ak* (Broadwell 2006:71-73).

This is the level of understanding of NP syntax required for the analysis of case-marking in chapter 6, but it conceals much of their complexity—in particular I have nothing much to say about nominal compounding

60. Note that *-aash* in (93b) is followed by a demonstrative *-m-*. And as Broadwell (2006:89-90) notes, *-aash* can also be followed directly by a special case-marker (*-oosh*/*-o*), as in (i). These constituents should likely be analyzed as *complex* NPs, in which the nominal functional sequence may be repeated and interleaved with the verbal/clausal functional sequence—see §2.7.2.

(i) *Allát Jane i holábi kásh o i holloh.*
Alla-at Jane i-holaabi-k-aash-o i-hollo-h
child-NOM Jane DAT-like-COMP-PREV-OBL.SP DAT-love-TNS
'Jane still loves children who lie to her.' (L_06-15-17_65)

(though cf. §6.7.1) or nominalized verbs (glossed throughout this thesis with 'NMZ', see Broadwell 2006:52-53). Other parts of this chapter touch on nominal syntax too: the next subsection (§2.6.2) discusses NP-internal modification by verbs, and §2.7 explores the fuzzy or indeterminate clausal/nominal status of a great many syntactic constituents in Choctaw, including indefinites and *wh*-expressions.

2.6.2 Adjectives and quantifiers?

The head noun within a Choctaw noun phrase can be modified by an immediately following verb, as in (94).

(94) **Nouns modified by NP-internal verb**

a. *Ofi chito ma oklí holloppitok.*
[ofi chítoo-m-a] okl=ii-holloppi-tok
dog big.NMZ-DEM-OBL PL=1PL.ERG-bury-PST
'We buried the big dog.' (E_10-14-18_35)

b. *Nashóba tochchína ishbik makáchih.*
[nashóoba tóchchiina] ish-bi-kmakaachih[61]
wolf three:GG 2SG.ERG-kill-should
'You have to kill three wolves.' (E_06-06-17_35)

The verbs that fit most naturally into this construction have stative interpretations, and have the kinds of interpretations which, in European languages, would be encoded by separate lexical categories of adjectives or quantifiers. This leads to the question of whether adjectives and quantifiers constitute a separate lexical category (or categories) from verbs in Choctaw.

In my view, there is not sufficient evidence to class them as a separate category from verbs (Ulrich 1986:15 makes a similar assessment). Adjectives and quantifiers slot happily into the verb complex template discussed in §2.5, and can be marked with argument-indexing clitics as well as all the regular verbal suffixes:

(95) **Adjectives and quantifiers inflect like verbs**

a. *Chi ápisachilittók chi ossihma.*
chi-aapisáchi-li-ttook chi-ossi-hm-a
2SG.ABS-look.after-1SG.ERG-DPST 2SG.ABS-little-when-DS
'I looked after you when you were little.' (B_04-16-19_32)

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61. It is not at all clear how to analyze constructions where the main verb is followed by *-kmakaachih*. Broadwell (2006:176-178) analyzes the *-k* as a special embedded tense marker, *mak* as a copular verb, and the material following *mak* as TMA suffixes. He contrasts this account with that of Haag (1996), who states that *-k* marks subjunctive mood (presumably with *makaachih* still being an inflected copula). However, both of these analyses are problematic in view of the fact that tense can co-occur alongside *-k* if the linker morpheme *-o(o)-* is added, as in (i).

(i) *Apíla chinna hokmat ish asilhlha hokmakáchih.*
apiila chi-nna-h-o-km-at ish-asilhlha-h-o-kmakaachih.
help 2SG.ABS-want-TNS-LINK-if-SS 2SG.ERG-pray-TNS-LINK-should
'If you want to help, you better pray.' (F_06-28-16_36)

Another plausible analysis would be that *-km* is the standard complementizer 'if/when', *-ak* is the standard focus-marker (which we know can attach after certain complementizers, cf. §2.7.3), and *-aachih* is in fact *aachih*, a future-mood copula. In this dissertation, I simply gloss the whole *-kmakaachih* complex as 'should', for convenience, but the reader should not take this to be a proper analysis.

b. *Oklí lawah.*
okl=ii-lawa-h
PL=1PL.ERG-many-TNS
'There are a lot of us.' (B_04-15-19_37)

Broadwell (2006:223) argues that the ability of these verbs to occur in the N-modifying construction in (94) should cause us to classify them as a separate category from verbs. However, eventive intransitive verbs, including unergatives, can occur in the N-modifying position too:

(96) **Unergative and other eventive verbs can modify the head noun within an NP**

a. *Katos apakshano ma̲ hoklilitok.*
[kátos apaksháno-m-a̲] hokli-li-tok
cat struggle.NMZ-DEM-OBL catch-1SG.ERG-PST
'I caught the struggling cat.' (C_02-05-18_91)

b. *Hattak mat oka yanalli ma̲ áska̲na hátokósh …*
hattak-m-at [oka yanálli-m-a̲] aask-a̲na-h-aatok-oosh …
man-DEM-NOM water flow.NMZ-DEM-OBL fix-MOD-TNS-because-SS
'Because that man was able to fix the running water…' (D_10-19-18_39)

c. *I̲ filammilih, okla hilha alhíha.*
i̲-filammi-li-h, [okla hílha alhiiha]
DAT-avoid.ACT-1SG.ERG-TNS people dance.NMZ group
'I avoid them, dancing people.' (D_04-02-19_18)

Broadwell (2006:221-226) documents a number of differences between adjectives/quantifiers and 'regular' (eventive) verbs, but I believe the most perspicuous analysis is that these are simply a subtype of verb.[62]

This analysis leads to the question of what the internal structure of attributively-modified NPs like those in (94) and (96) looks like. I am unable to investigate this question here, but a relative clause analysis seems like a reasonable possibility.[63]

2.6.3 Adpositions?

Choctaw has a class of adposition-like words, which take NP complements and show up as bare adjuncts in the periphery or the middle field of the clause (see §2.4 on the middle field). They display some verb-like and some noun-like properties. Like verbs, they take objects (which may be clitic-doubled) as in (97), they may occur in grade forms as in (98), and they may be causativized as in (99).

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62. One of the many issues I gloss over in this chapter is the appearance of apparent 'nominalization' morphology on some N-modifying verbs, as in (96). In Ulrich's (1986:77-81) analysis, all verbs that attributively modify nouns are nominalized, but Broadwell (2006:223-225) shows that the picture is not as simple as that.

63. Broadwell (2006:225) is skeptical of a relative clause analysis on the grounds that the head noun—the would-be subject of the relative clause—does not bear nominative case. However, I show in chapter 6 that nominative case is associated with certain 'high' clausal functional structure, and we would not necessarily expected it in a truncated relative clause. The internal structure of noun phrases with internal verbal modification requires further investigation.

(97) **'Adpositions' take objects and host clitics**

a. *Katos at topa notáka ittolah.*
kátos-at [topa notaaka] ittóla-h
cat-NOM bed under lie:NG-TNS
'The cat is under the bed.' (B_04-11-19_88)

b. *Achi si apakna sa bohlih.*
achi [si-aapakna] bohli-h
blanket 1SG.ABS-on.top put-TNS
'He put the blanket on me.' (B_04-11-19_42)

(98) **'Adpositions' appear in grade forms**

a. *Walmart anoka kana pato a tahpalatok.*
[Walmart anóka] kána-p-ato a-tahpala-tok
Walmart inside:NG someone-this-NOM.CONTR 1SG.DAT-shout-PST
'Someone yelled at me in Walmart.' (C_01-30-18_126)

b. Notáyyaka ittóla-h.
under:YG lie:NG-TNS
'He's lying under it [something like a shelter]' (Broadwell 2006:253, edited)

(99) **'Adpositions' may be causativized**

a. *Topa notákachit bohlilitok.*
topa notaaka-chi-t bohli-li-tok
bed under-CAUS-PTCP put-1SG.ERG-PST
'I put it under the bed.' (D_04-11-19_39)

b. *Apaknachit bohlitok.*
apakna-chi-t bohli-tok
on.top-CAUS-PTCP put-PST
'She put it on top of it.' (B_04-15-19_60)

However, they are also different from typical verbs in certain ways. For instance, they may not generally serve as main verbs, nor may they be marked with subject-indexing clitics.[64] Some researchers have argued that these adpositional elements are in fact nouns (Nicklas 1974:207, Munro 1989). I refer to the reader to Broadwell (2006:252-256) for arguments for and against the verbal status of the adpositions. See also Henderson (2019), Coon (2019) for a verbal analysis of positional roots in Mayan, which also show idiosyncratic syntactic properties.

64. The speakers I consulted would sometimes accept adpositions as main verbs, marked with ERG clitics and tense suffixes, as in (i). They acquired a motion interpretation. However, I couldn't work out what factors made this acceptable, and it requires more investigation.

(i) *Pit ish apaknah.*
pit ish-apakna-h
away 2SG.ERG-on.top-TNS
'You just go up.' (B_04-11-19_103)

2.7 Constituents of indeterminate clausal vs. nominal status

In this section, I discuss two kinds of constituents in Choctaw that could be analyzed as either clausal or nominal (or in some sense both). First, I discuss indefinites and *wh*-expressions in argument positions. Like other indefinites and *wh*-expressions in Choctaw they show clausal morphology, but they have the syntactic distribution of nominals in argument positions (§2.7.1). Second, I discuss other complex NPs, which Broadwell (2006) has argued to contain a copular clause (§2.7.2). They show the same ability to sit in argument positions as simple NPs (whose internal structure was discussed in §2.6.1). Finally, in §2.7.3 I discuss the pervasive syncretism between case and switch-reference in Choctaw, which contributes to the categorial indeterminacy of the constituents considered here. As alluded to at several points in this chapter, I propose that we should think of switch-reference markers as case (K) morphemes in an 'unexpected' environment, rather than as a different set of markers which happen to be homophonous with the case markers (and are related only by diachrony).

It is worth understanding that the appropriate analysis of these 'indeterminate' constituents has a significant impact on the analysis of the overall structure of Choctaw, but does *not* have an enormous impact on the phenomena studied in this dissertation. If it turns out that the correct analysis of these categorially-ambiguous constituents is as clauses, then the overall structure of Choctaw is closer to that of a traditionally 'pronominal argument' language than I, or previous authors, have thought (see §2.7.3). But, on the other hand, the internal structure for the VoiceP analyzed in chapter 3 will remain unchanged, as will the analysis of ERG, ABS and DAT clitics built up in chapters 4 and 5. Chapter 6 makes the case for a [NOM] case value, and looks at the morphosyntactic conditions determining when it gets exponed on NPs. If a great many apparent NPs are in fact clauses, then the part of the chapter that deals with the technical implementation of exponence would have to be revised, but the part of the chapter that outlines which 'NPs' get the [NOM] value and which do not would remain, essentially, unchanged.

2.7.1 Indefinites and *wh*-words

Indefinites and *wh*-words are related to each other. They all contain a 'base' form of *ká* or *ná*, followed by a series of suffixes.[65] The first suffix after the base must be an interrogative suffix *-t* or an indefinite suffix *-n*. After that, a large range of other morphological material may occur. A small sample of indefinites and *wh*-words is provided in the table in (100).

65. In this thesis I follow the convention established by Broadwell (2006:105) that all indefinites and *wh*-words built off *ká-* retain the pitch accent on the initial syllable, although there are indications that in longer words, e.g. *kániiyohmi* 'some', the pitch accent may fall later, or be absent (making it, to my ears, *kaniiyóhmi*). This requires more rigorous investigation.

(100) **Some indefinite and interrogative expressions**

Indefinite		Interrogative	
nán̲a	'something'	*náta*	'what'
kána	'someone'	*káta*	'who'
kánit	'somehow'	*kátit*	'how'
kánimma	'someplace/sometime'	*kátimma*	'where/when (past)'
kániiyohmi	'some'	*kátiiyohmi*	'how many'
kániimi	'do something'	*kátiimi*	'do what'

Broadwell (2006:105-123) discusses these expressions in great detail, and I do not discuss their intricacies here. In this section, I focus on the vexing fact that fully-formed indefinites and *wh*-words often contain morphological marking that we would expect of full clauses, *but* are located in what are clearly argumental positions. They share this property with 'complex' NPs, discussed next (§2.7.2).

Some indefinites and *wh*-words are best analyzed as simple NPs. They sit in argument positions and the expected case-marking attaches directly to the indefinite or *wh*-word itself. They may also lack case-marking, when in object position.[66]

(101) **Indefinite expressions in subject position**

a. *Na kana yat ak̲aka ikpotok.*
ná **kána-yat** ak̲aka ík-p-o-tok
NPI **someone-NOM** chicken IRR-eat:LG-NEG-PST
'No-one ate the chicken.' (E_06-01-17_71)

b. *N̲anat koloffitok.*
nán̲a-t koloffi-tok
something-NOM gouge.ACT-PST
'Something gouged it.' (A_10-10-18_1)

(102) **Indefinite and *wh* expressions in object position**

a. *Hattak mat kata i̲ t̲oksalih?*
hattak-m-at **káta** i̲-t̲oksali-h
man-DEM-NOM **who** DAT-work-TNS
'Who does that man work for?' (G_08-14-17_30)

b. *Ohóyo mat kana mihách illa ikk̲anah.*
ohooyo-m-at **kána** mihaachi illa ikk̲ána-h
woman-DEM-NOM **someone** insult only know:NG-TNS
'That woman knows only how to insult people.' (C_02-05-18_27)

Other indefinites and *wh*-words appear to be verbal, and serve as the main verb of clauses. The indefinite and *wh*-word in (103) serve as the main verb of their clauses, bearing all the expected morphology of a verb

66. *Wh*-words may be fronted or *in-situ*. We can think of this as regular constituent-fronting, discussed in §2.3.4, rather than as a special rule of *wh*-movement. See Broadwell (2006:119-123) for more on *wh*-movement in Choctaw, including a discussion of island constraints.

complex (cf. §2.5), and can be translated as 'do/say something', or 'do/say what'.

(103) **Indefinite and *wh* expressions as main verbs**

a. Ish-kátiimihchi-h?
2SG.ERG-do.what-TNS
'What are you doing?'

b. Ik-itháan-o-h kániimi-li-to-k-at.
IRR-know:LG-NEG-TNS do.something-1SG.ERG-PST-COMP-SS
'He doesn't know what I did.' (Broadwell 2006:108, edited)

Clausal indefinites/*wh*-words will also happily appear in adjoined positions, and perform the same function as adverbial adjuncts in English. The 'literal' translations of the following examples attempt to capture the syntactic role of the adjoined indefinites/*wh*-expressions.

(104) **Indefinite and *wh* expressions as adjoined clauses**

a. *Kanítchihósh michchilitokat ak ikkánoh, ihókakósh michchilitok.*
kániichi-h-oosh michchi-li-to-k-at ak-ikkán-o-h,
do.something-TNS-SS do-1SG.ERG-PST-COMP-SS 1SG.IRR-know:LG-NEG-TNS
i-h-oo-kak-oosh michchi-li-tok
LV-TNS-LINK-although-SS do-1SG.ERG-PST
'I don't know how I did it, but I did it.'
(lit. 'I don't know doing how, doing something, I did it, but I did it.') (C_02-05-18_117)

b. *Katihchish ish makách<u>a</u>nah<u>o</u>?*
kátihchi-sh ish-makaach-<u>a</u>na-h-<u>o</u>
do.how-PTCP 2SG.ERG-say-MOD-TNS-Q
'How are you saying it?
(lit. 'You are saying it, doing it how?') (D_04-01-19_5)

The harder-to-analyze cases are when we see indefinites and *wh*-words that have clausal morphology, but appear to be in an argument position. In (105-107), the indefinites/*wh*-words carry some amount of clausal morphology, but are in argument positions. The indefinites/*wh*-words in (105) are in object position, bounded by the subject on the left and the main verb on the right. The indefinites/*wh*-words in (106) are likely to be in the subject position, since they are bounded by a sentence-level adjunct on the left.[67] The *wh*-word in (107) is in a NP-internal possessor position.

(105) **Clause-like indefinite and *wh* expressions in object position**

a. *John at katah<u>o</u> haksichitok.*
John-at **káta-h-<u>o</u>** haksichi-tok
John-NOM **who-TNS-OBL.SP** trick-PST
'Who did John trick?' (C_06-30-16_105)

67. The indefinites/*wh*-words in (106) could still be adjoined in a position above the subject position but below the higher adjunct. More study is required.

b. *Alla mat nana hókano makáchi banna hikakósh híkiyoh.*
allaa-m-at **nána-h-oo-k-ano** makaachi banna
child-DEM-NOM **something-TNS-LINK-COMP-OBL.CONTR** say want
hi-kak-oosh hii-kiyo-h
LV-although-SS LV-not-TNS
'That kid wants to say something but she can't.' (L_06-15-17_135)

(106) **Clause-like indefinite and *wh* expressions in subject position**

a. *Tachi ho katahósh mot okla ikpotok.*
tachih-o káta-h-oosh mo-t okla=ík-p-o-tok
corn-OBL.SP who-TNS-NOM.SP all-PTCP PL=IRR-eat:LG-NEG-PST
'Who all didn't eat the corn?' (A_06-05-17_154)

b. *Ná bokahlichi ma nanahókato on ittolatok.*
naa=bokahlíchii-m-a nána-h-oo-k-ato on-ittola-tok
thing=burst.ACT.PL.NMZ-DEM-OBL something-TNS-LINK-COMP-NOM.CONTR SUP-fall-PST
'Something fell onto the balloon.' (D_04-15-19_85)

(107) **Clause-like *wh* expression in possessor position**

Bill at kataho ikanómi afámatok.
Bill-at [káta-h-o i-kanoomi] afaama-tok
Bill-NOM who-TNS-OBL.SP DAT-relative meet-PST
'Whose cousin did Bill meet?' (H_07-05-16_93)

All of the indefinites or *wh*-words in (105-107) carry at least the default tense suffix *-h*.[68] Some of them also carry the complementizer *-k*. In addition, indefinites/*wh*-words formed with *ná* appear to be in the n-grade, although it is unclear whether the n-grade has any effect on interpretation here (argumental indefinites/*wh*-words do not appear in any other grade forms). Broadwell (2006:107) analyzes all indefinites and *wh*-words as being verbs, explaining why they take verbal/clausal morphology. And while this does account for their morphology, as well as certain other facts about their syntactic distribution, it still leaves the question of how exactly it is that these 'clauses' sit in argument positions, where we expect to find NPs.

The issue is complicated by the fact that the final suffix on most embedded clauses and most nominal

68. The situation is made yet more complicated by the fact that indefinites (though seemingly not *wh*-expressions) can end in *h*, and be followed by a *neutral* (rather than special) case-marker. This differentiates them from the indefinites and *wh*-expressions in (101). Some examples are given in (i).

(i) a. *Kana hat nokówah oklim ahwah.*
kánah-at nokoowa-h okl=im-ahwa-h
someone-NOM angry-TNS PL=DAT-seem-TNS
'People think he's angry.' (C_02-02-18_13)

b. *Chihówa akilla kásh kanaha masálichih.*
Chihoowa-ak-illa-k-aash **kánah-a** masaali-chi-h
God-FOC-only-COMP-PREV **someone-OBL** heal-CAUS-TNS
'Only God heals people.' (A_08-07-17_40)

For now, I assume that indefinites bearing *h* plus a neutral case-marker have the same morphological structure as *h*-less indefinites carrying a neutral case-marker, and I gloss them accordingly. Though there are doubtless semantic differences between them which I am unable to investigate in this dissertation.

arguments is a syncretic case/switch-reference marker. In the above examples, and throughout this dissertation, I opt to gloss the markers as case-markers (NOM/OBL) when they attach to constituents that sit in argument positions (except for complement clauses), and as SR markers (SS/DS) when they attach to constituents that appear to be full clauses. But the choice is not always clear, and some of the decisions made here are arbitrary. The nature of case and switch-reference morphology is discussed in §2.7.3.

Next, I turn to so called 'complex' NPs. Like indefinites and *wh*-words, they show clausal morphology, despite being able to appear in argument positions.

2.7.2 Other 'complex' NPs

Unlike indefinites and *wh*-words, where the 'core' indefinite/interrogative element appears to verbal, complex NPs contain clear nominal roots. But unlike the simple NPs discussed in §2.6.1, they contain material which suggests the presence of some clausal functional structure. Some of their more eyecatching properties include (a) the presence of adverbial suffixes, as in (108), (b) the presence of *repeated* demonstratives or focus markers, as in (109), and (c) the presence of the tense-marker *-h*, as in (108a) and (110).

(108) **Complex NPs may contain adverbial suffixes**

a. opya-m-**aki̲li**-h-o̲
evening-DEM-**EMPH**-TNS-DS
'that very evening' (Broadwell 2006:86)

b. *Chishnak fíhna chi pi̲satok o̲?*
chishn-ak-**fíihna** chi-pí̲sa-tok-o̲
you-FOC-**exactly** 2SG.ABS-see:NG-PST-Q
'Was it you that he saw?' (A_06-05-17_50)

(109) **Complex NPs may contain repeated functional material**

a. *Chishnak makósh cháhat issa̲shahlih.*
chishn-ak-m-ak-oosh chaaha-t is-sa̲-shahli-h
you-FOC-DEM-FOC-NOM.SP tall-PTCP 2SG.ERG-1SG.DAT-exceed-TNS
'You're the one who's taller than me.' (D_10-15-18_63)

b. *A̲ka̲na mak makósh alatok.*
a̲-ká̲na-m-ak-m-ak-oosh ala-tok
1SG.DAT-friend-DEM-FOC-DEM-FOC-NOM.SP come-PST
'Even MY friend came.' (B_10-23-18_30)

c. *John at anák mak mako̲ sa pi̲satok.*
John-at an-aak-m-ak-m-ak-o̲ sa-pí̲sa-tok
John-NOM me-FOC-DEM-FOC-DEM-FOC-OBL.SP 1SG.ABS-see:NG-PST
'John even saw ME.' (A_04-06-19_83)

(110) **Complex NPs may contain tense marker *-h***

a. Hattak-m-ak-fiihna-**h**-oosh ala-h.
man-DEM-FOC-exactly-**TNS**-NOM.SP come-TNS
'That very man came.' (Broadwell 2006:88)

b. *Yammak illahósh ano.*
yamm-ak-illa-**h**-oosh ano
that-FOC-only-**TNS**-NOM.SP mine
'That's the only one that's mine.' (C_01-31-18_135)

Broadwell (2006:84-92) proposes that complex NPs like those in (108-110) contain a null copula verb. This null copula serves as the host for adverbs, as in (108), and tense morphology, as in (110). It also allows one NP, marked with a demonstrative or focus-marker, to be predicated of a second NP, marked with a *second* overt demonstrative or focus-marker, as in (109). The presence of the null copula within the NP itself also makes it very difficult to determine whether the final case/SR markers are best classed as case-markers or SR-markers—as discussed in the previous section, the decision is often arbitrary. The internal structure of these complex NPs in Choctaw requires further investigation.

Like indefinites and *wh*-words, complex NPs may also happily occur in argument positions. The complex NP in (109c) is bounded on the left by the subject and on the right by the verb, so must be in the object position. The same is true of the complex NP *im-ofi-ak̲i̲li-h* in (111).

(111) Hattak-m-at im-ofi-ak̲i̲li-h abi-tok.
man-DEM-NOM DAT-dog-EMPH-TNS kill-PST
'That man killed his own dog.' (Broadwell 2006:87)

And just as with indefinites and *wh*-words, the fact that complex NPs have some of the morphology of clauses, but the syntactic distribution of NPs, leaves their categorial status uncertain uncertain.

Another kind of constituent of indeterminate clausal vs. nominal status are NPs composed of a head noun, a modifying verb (quantificational or demonstrative in meaning), and the complementizer *-k*, which is then followed by case/SR morphology. Some examples with these constituents in the object position are given in (112).

(112) **NPs with quantifier + *-k* + SR**

a. *Matthew at cans yómi ka̲ kochohlichit tahlitok.*
Matthew-at [cans yoomi-k-a̲] kochohlichi-t tahli-tok[69]
Matthew-NOM cans those-COMP-OBL crush.ACT.PL-PTCP finish.ACT-PST
'Matthew crushed those cans.' (A_10-08-18_83)

69. *Yoomi* seems to function as a kind of demonstrative, though I am unsure what it's exact contribution is. It is likely diachronically related to the 'demonstrative verb' *yohmi*, which means something like 'to do like so'.

b. *Hattak mat ofi toklo ka̲ hoklitok.*
hattak-m-at [ofi toklo-k-a̲] hokli-tok
man-DEM-NOM dog two-COMP-OBL catch-PST
'The man caught two of the dogs' (C_02-05-18_85)

c. *Hattak mat oklí mo̲ma ka̲ hapi̲ noktalhah.*
hattak-m-at [okl=ii-móma-k-a̲] hapi̲-noktalha-h
man-DEM-NOM PL=1PL.ERG-all:NG-COMP-OBL 1PL.DAT-jealous-TNS
'The man is jealous of all of us.' (B_10-15-19b_36)

One possible analysis is that these are relative clauses (akin to one analysis of the attributively-modified nouns in §2.6.2). Another possibility is that they are complex NPs, along the lines outlined above, except rather than having an internal null copula, they have a quantifier verb instead. I leave this issue here.

2.7.3 Case and switch-reference

Choctaw's case-markers lead double lives as switch-reference (SR) markers. This creates a lot of ambiguity about the clausal vs. nominal status of various constituents, which I have discussed in this section. It also leads to a lot of arbitrary decision-making when trying to establish conventions for glossing these markers as case-markers (NOM/OBL) vs. SR markers (SS/DS)—certain uses of the markers could be equally well classified as case usages or SR usages.[70] Here, I first provide a descriptive overview of how switch-reference marking works on some constituents that are clearly clausal. I then propose a pathway towards an analysis of the case/SR syncretism. The basic idea is that the bi-functionality of case/SR morphology is not just homophony, caused by diachrony, but that the case/SR markers are the same functional element in a unified synchronic system.

The left hand side of the table in (113) lists some common 'complementizer + SR' morpheme sequences in Choctaw. The right hand side of the table shows the counterpart case-markers (see §2.6.1 for the 'neutral' vs. 'special' distinction). The presentation of the data is based on Camacho (2010), with some changes. Crucially, note that basically all of the elements on the left hand side can be decomposed into a complementizer and a *case* marker.[71]

70. An alternative, less messy option would be to come up with a unified gloss for NOM/SS markers and OBL/DS markers (although there is no consensus that this unification is merited analytically).

71. The forms in (113) diverge somewhat from previous literature. Firstly, the shortened forms of *-aatokoosh*/*-aatoko̲* 'because' have not, I believe, been documented in previous literature (note also that when this morpheme occurs in combination with the past tense morpheme *-tok*, the whole sequence is generally reduced to *-tokoosh*/*-toko̲*; the concatenated sequence *-tokaatokoosh*/*-tokaatoko̲* is rare, though possible).

Secondly, the form of *-kakoosh*/*-kako̲* 'although' is listed as *-ookakoosh*/*-ookako̲* in Broadwell (2006:264). Similarly, *-hmakoosh*/*-hmako̲* 'although' is listed as *-ohmakoosh*/*-ohmako̲*. However, the forms without initial *-o(o)*, shown in (113), were the ones generally provided by the speakers I consulted. I believe that the *-o(o)* that sometimes appears in examples like (i) is really the 'linker' morpheme (see §2.5.1), as shown in the gloss (cf. Broadwell 2006:300).

(113) **Morphological syncretism between SR and case-marking**

complementizer + SR forms			**case forms**		
SS	**DS**	Gloss	**NOM**	**OBL**	Usage
-k-at	*-k-a*	'that'/'when'/COMP	*-at*	*-a*	neutral NPs
-hm-at	*-hm-a*	'when (past)'			
-km-at	*-km-a*	'when (fut.)'/'if'			
-oosh	*-o*	'that'/'for'/PTCP	*-oosh*	*-o*	special NPs
-(aa)t(ok)-oosh	*-(aa)t(ok)-o*	'because'			
-hmak-oosh	*-hmak-o*	'although'[72]			
-(k)ak-oosh	*-kak-o*	'although'			
-cha	*-na*	'and'			

There is one pair of suffixes that is used *only* as switch-reference marking, and never as case-marking. Those are the *-cha*/*-na* suffixes, often translated simply as 'and' (though they are used to introduce some embedded clauses too, cf. Broadwell 2006:273-278).[73]

The sentences in (114) illustrate, for just one pair of forms, how the switch-reference markers provide information on whether two clauses have the same subject or a different subject. The bracketed adjoined clause in (114a) has the same subject as the main clause (John's dog), so is marked with a same-subject marker. The bracketed adjoined clause in (114b), by contrast, has a different subject from the main clause ('he' for the main clause, the grass for the embedded clause), so carries a different-subject marker.

(114) **Switch-reference marked on adjoined clauses**

a. *John im ofi yat howítah abíka hátokósh.*
John im-ófi-yat howiita-h [abiika-h-aatok-**oosh**]
John DAT-dog-NOM vomit-TNS sick-TNS-because-**SS**
John's dog threw up because it was sick.' (C_01-31-18_92)

b. *Onnahili ya hashshok amo ik bannotok lachátoko.*
onnahíli-ya hashshok amo ik-bánn-o-tok [lach-aatok-**o**]
morning-OBL grass cut IRR-want:LG-NEG-PST wet-because-**DS**
'He didn't want to cut the grass in the morning because it was wet.' (C_02-05-18_150)

Broadwell (2006:263) suggests that the morphemes' usage as switch-reference markers has a diachronic source in their usage as case markers, but he eschews a synchronic unification of the two systems. However,

(i) Tamaaha iy-ahina-k-at si-anokfoka-h-**oo**-kak-oosh, am-ihaksi-tok aachiini-tok.
town go-MOD-COMP-SS 1SG.ABS-intend-TNS-**LINK**-although-SS 1SG.DAT-forget-PST EVID-PST
'I intended to go to town, but I forgot.' (Broadwell 2006:282)

Finally, in many cases the complementizer can be morphologically decomposed further. For instance, *-hmak-* 'although' can be decomposed into *-hm*, which exists as a standalone complementizer meaning 'when', and *-ak*, the focus marker. However, it is beyond the scope of this dissertation to build a decompositional analysis of the complementizers.

72. (Broadwell 2006:264) translates *-ohmakoosh*/*-ohmako* as 'but'. In an English translation, however, placing 'but' at the beginning of the matrix clause is essentially equivalent to placing 'although' at the beginning of the adjoined clause, so I do not gloss them differently here.

73. Ulrich (1986:150) proposes that *-cha* and *-na* are formed by suffixing a morpheme *-a* to the regular SR endings *-sh* and *-n* and applying some regular phonological rules.

here I lay out four piece of evidence that Choctaw grammar really does treat case and SR as, in some sense, the same abstract system, and not as simply homophonous.[74] Firstly, there is near-total morphological syncretism across the two domains. Secondly, I show that the change underway in the case-marking system of younger speakers (documented in §6.13) is matched by a parallel change in the SR-marking system. Thirdly, case and SR-marking are in complementary distribution on relative clauses. Fourthly, the morphology found at the edge of clauses, immediately preceding SR-marking, closely matches the morphology found at the edge of NPs, immediately preceding case-marking.

The first kind of evidence for a case-SR unification is that that every case-marker also appears in the SR paradigm. This includes both nominative and oblique markers, and neutral, contrastive and special markers—they all find a home within the switch-reference paradigm. (114) shows that clauses can be marked with *-oosh*/*-o̲*, which also serve as the special case-markers. (115) shows the neutral case-markers *-at*/*-a̲* being used to mark same-subject adjoined clauses and different-subject embedded clauses respectively, and (116) shows the contrastive case-markers *-ato*/*-ano* doing the same thing.[75]

(115) **Switch-reference with the neutral markers *-at*/*-a̲***

a. *Katos ish ahóchikmat ish i̲pachahítok.*
[kátos ish-ahoochi-km-**at**] ish-i̲pa-ch-ahii-tok
cat 2SG.ERG-find-if-**SS** 2SG.ERG-eat-CAUS-MOD-PST
'If you find a cat, you should feed it.' (A_06-09-17_89)

b. *Ish yoppanna ha̲walikma̲.*
ish-yoppa-nna [ha̲wa-li-km-**a̲**]
2SG.ERG-laugh-NEG.IMP yawn-1SG.ERG-if-**DS**
'Don't laugh when I yawn.' (L_08-14-17_20)

(116) **Switch-reference with the contrastive markers *-ato*/*-ano***

a. *Sam at ofi im a̲ttahmato im achokmatok.*
[Sam-at ofi im-á̲tta-hm-**ato**] im-achokma-tok
Sam-NOM dog DAT-be.SG:NG-when-**SS.CONTR** DAT-good-PST
'When Sam had a dog he was happy.' (A_08-08-17_17)

b. *Abíka hokmano iyálách̲ikiyoh.*
[abiika-ho-km-**ano**] iyaa-l-aachi̲-kiyo-h
sick-LINK-if-**DS.CONTR** go-1SG.ERG-FUT-not-TNS
'If he's sick, I won't go.' (F_06-07-17_11)

Conversely, there is just one part of the SR paradigm that it is not used in case-marking: the *-cha*/*-na*

74. Heath (2007), in his review of Broadwell 2006, notes that with the "razzle-dazzle circuitry of formal syntax" at one's disposal, a synchronic unification of case and SR should be within reach.

75. I am unsure why speakers might use the contrastive SR form in sentences like (116), if they do indeed retain a contrastive interpretation when used as SR markers. In these sentences, the SR-marked clauses are not (obviously) being contrasted with any other clause. This merits further investigation.

markers (although see Ulrich 1986:150 for an analysis in which these forms too are derived from underling *-t*/*-n* forms).

The second piece of evidence comes from a change underway in the Choctaw spoken by the younger speakers who I interviewed. In §6.13, I note how speakers of this generation will sometimes omit nominative case on subjects. Relevantly, the same generation *also* overgeneralizes the different-subject markers to contexts in which a same-subject marker would be used in more conservative Choctaw speech. This overgeneralization occurs with both the neutral marker (*-a̲*) and the special marker (*-o̲*), as exemplified in (117) and (118).[76]

(117) **Younger speakers may employ neutral DS marker in traditional SS environments**

a. *Katos ahóchilihma̲ i̲pachílitok.*
[kátos ahoochi-li-hm-**a̲**] i̲pa-chii-li-tok
cat find-1SG.ERG-when-**DS** eat-CAUS-1SG.ERG-PST
'When I found the cat, I fed it.' (E_06-09-17_24)

b. *Chokoshpa haklolihma̲ sa nokówah.*
[chokoshpa haklo-li-hm-**a̲**] sa-nokoowa-h
gossip hear-1SG.ERG-when-**DS** 1SG.ABS-angry-TNS
'Whenever I hear gossip I get angry.' (G_08-09-17_19)

c. *Hamáya oklikbih, ilokka okla michikma̲.*
hamaaya okl=ikbi-h, [ilókka okla=michi-km-**a̲**]
diamond PL=make-TNS dress PL=do-if-**DS**
'They put diamonds on them when they make the dresses' (I_08-09-17_4)

(118) **Younger speakers may employ special DS marker in traditional SS environments**

a. *John oshi yat hottopátoko̲ na washóháchi̲ kiyoh.*
[John oshii-yat hottop-aatok-**o̲**] ná washooh-aachi̲-kiyo-h
John child-NOM hurt-because-**DS** NPI play-FUT-not-TNS
'John's son is hurt and so he won't be playing.' (I_08-09-17_73)

b. *Na̲na michcha̲nakako̲ ik ili yimmoh.*
[ná̲na michch-a̲na-kak-**o̲**] ik-ili-yímm-o-h
thing do-MOD-although-**DS** IRR-REFL-believe:LG-NEG-TNS
'He can do these things but he doesn't believe in himself.' (E_01-31-18_104)

c. *Hattak mat abíka hátoko̲ ili hayákachi ik bannoh.*
[hattak-m-at abiika-h-aatok-**o̲**] ili-hayaaka-chi ik-bánn-o-h
man-DEM-NOM sick-TNS-because-**DS** REFL-appear-CAUS IRR-want:LG-NEG-TNS
'That man is ill and so he doesn't want to show himself.' (G_08-14-17_43)

The fact that usage of the nominative marker seems to be declining in parallel with usage of the SS marker

76. Interestingly, Williams (1999) noted a similar shift in the SR-marking patterns of (then)-younger speakers of Oklahoma Choctaw, where the DS marker generalizes to environments that require an SS marker in conservative speech. He does not discuss any change in case-marking patterns.

points to their being the same synchronic element.[77]

The third piece of evidence in favour of a case-SR unification is that they are in complementary distribution on relative clauses. As (119) shows, it is possible to mark switch-reference *or* case on relative clauses, *but not both*. For each gloss, the form that encodes the appropriate switch-reference value is boxed, the form that encodes the appropriate case value is italicized.[78]

(119) **Case and SR marking are in complementary distribution on relative clauses**

a. Same-subject relative clause in object position

[Hattak ayoppáchi-li-m-a/-at] apila-li-h.
man like:NG-1SG.ERG-DEM-*OBL*/-SS help-1SG.ERG-TNS
'I helped the man I like.'

b. Different-subject relative clause in subject position

[Jan ofi ipita-tok-m-a/-at] bali-t kaniya-h.
Jan dog feed-PST-DEM-DS/-*NOM* run-PTCP leave-TNS
'The dog Jan fed ran away.' (Gordon and Munro 2017:4-5, reglossed)

Fourthly, case-marking and SR-marking display similar interactions with other morphemes. To give one example, the focus marker *-ak* can be inserted in most places where the neutral (*-at*/*-a*) case-markers go, and is followed by a special (*-oosh*/*-o*) case-marker. (120a) shows *-ak* being appended to a noun phrase with a demonstrative determiner, and (120b) shows it being appended to a noun phrase without a demonstrative.

(120) **Focus marker *-ak* occupies position of case-markers *-at*/*-a* on NPs**

a. *Oppolo makǫ ishitok.*
oppólo-m-**ak**-ǫ ishi-tok
break.NACT.NMZ-DEM-**FOC**-OBL.SP take-PST
'It's the broken one that he got.' (C_02-05-18_131)

b. *Susan akósh katos im illitok.*
Susan-**ak**-oosh kátos im-illi-tok
Susan-**FOC**-NOM.SP cat DAT-die-PST
'It's Susan whose cat died.' (C_06-14-17_40)

Similarly, *-ak* can be inserted wherever the *-at*/*-a* SR markers can go, and is followed by an *-oosh*/*-o* SR marker. Some examples with *-ak* in SR positions are given in (121). Although *-ak* does not contribute focus interpretation in any obvious way in these examples, I gloss it as 'FOC' for consistency.

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77. The *-cha*/*-na* switch-reference markers are interestingly different, in that their use does not seem to be collapsing in the same way that it is for the other SR-markers. Among younger speakers for whom the switch-reference system is changing, the distinction between *-cha* and *-na* is maintained.

78. Gordon and Munro do not mark vowel length changes that derive from rhythmic lengthening (on which see chapter 2). I have not added them in.

(121) **Focus marker *-ak* occupies position of SR markers *-at*/*-a̲* on clauses**

a. *O̲bat issakmako̲ kil ilhkóli.*
[o̲ba-t issa-km-**ak**-o̲] kil-ilhkooli
rain-PTCP stop-if-**FOC**-DS 1PL.IRR-go
'Let's go when it stops raining.' (C_02-02-18_49)

b. *Car hat sipoknit taha hihmakósh i̲ hiki̲ya mo̲máchi̲h.*
[carh-at sipokni-t taha hi-hm-**ak**-oosh] i̲-hiki̲ya-mo̲m-aachi̲-h
car-NOM old-PTCP finish.NACT do.so-when-**FOC**-SS DAT-stand:NG-still-FUT-TNS
'When that car is really old, she will still have it.' (B_06-20-17_79)

As discussed in footnote 71, it is also likely that the complex forms *-hmak-oosh*/*-hmak-o̲* and *-kak-oosh*/*-kak-o̲*, both meaning 'although', are derived by appending *-ak* to the simpler complementizers *-k-* and *-hm-* (both of which are followed by the neutral *-at*/*-a̲* SR markers).

Another morphological interaction exhibited by both case and SR markers is that they can both be replaced with the 'previous-mention' suffix *-aash* (see §2.6.1). (122) shows that *-aash* can be used in lieu of both same-subject and different-subject markers, thus neutralizing the SR distinction between them. Crucially, *-aash* can also be used in lieu of both nominative and oblique case-markers, as in (123).

(122) **Previous-mention suffix *-aash* occupies position of SR markers *-at*/*-a̲***

a. *Mary at na̲n anólitokásh yoppa kat átapatok.*
[Mary-at ná̲n anooli-tok-**aash**] yoppa-k-at aatapaa-tok
Mary-NOM thing tell.ACT-PST-PREV laugh-COMP-SS do.much-PST
'Mary was telling the story and laughing a lot.' (A_01-30-18_134)

b. *Ish ikka̲na mo̲mah o̲, okkata il íya kásh?*
ish-ikká̲na-mó̲ma-h-o̲, [okkata il-iiya-k-**aash**]
2SG.ERG-know:NG-still-TNS-Q lake 1PL.ERG-go-COMP-PREV
'Do you remember the time we went to the lake?' (L_08-14-17_22)

(123) **Previous-mention suffix *-aash* occupies position of case-markers *-at*/*-a̲***

a. *Bill ásh iyatok.*
Bill-**aash** iya-tok
Bill-PREV go-PST
'Bill left.' (E_08-09-17_53)

b. *Ak̲a̲ka yásh apahnik.*
ak̲a̲ka-**yaash** apa-hnik
chicken-PREV eat-certain
'He really did eat the chicken.' (D_10-19-18_94)

So we have seen four distinct kinds of evidence that case-marking and SR-marking are part of the same synchronic system in Choctaw. Following the analysis outlined in §2.5.1, I assume all switch-reference markers are in fact case-markers (exponents of a K head). However, I remain essentially agnostic for the purposes of the dissertation as to how different-subject clauses end up with oblique case-markers while

same-subject clauses get nominative case-markers.[79] It is also necessary to keep in mind that Choctaw's particular case-SR syncretism is not at all common outside of the Muskogean family. (McKenzie 2012, 2015) observes that languages recruit pairs of functional morphemes from various other parts of their grammar to develop switch-reference systems (e.g. motion to vs. motion from, or near vs. far). He cautions that the wide variety of functional items that are 'homophonous' with switch-reference markers across languages should make researchers wary of building an analysis that connects one pair of functional items to switch-reference in a particularly 'deep' way.

Finally, it is necessary to address one potential objection to the a major assumption made in this dissertation: that Choctaw has 'case'-marking at all. The objection would go like this: given that SR and case make use of the same pieces of morphology, why not instead assume that all apparent case-markers are switch-reference markers, with all case-marked 'NPs' just being very reduced clauses. This approach has precedent with, for instance, the secondary predication approach to NPs in nonconfigurational languages (Baker 2001) (based on Jelinek's 1984, 1989 Pronominal Argument Hypothesis, as well as work by Speas 1990). While it would no doubt be possible to draw up a system like this, here I show that something *like* a 'nominative case' feature is an irreducible part of a full model of Choctaw grammar.

The basic setup of an analysis in which all NPs are clausal adjuncts would look something like this. All apparent 'NP's would in fact be clauses (which are non-referential) in which a null subject is predicated of some referential element. So an 'NP' like *alíkchi* 'doctor' would in fact have a structure like [$_{\text{clause}}$ *pro* alíkchi], where *alíkchi* in this structure is a predicate meaning 'be a doctor'. The case-markers would then be switch-reference markers that reveal the relationship between the null subject of the 'NP-clause' and the subject of the matrix clause to which it adjoins. A nominative case-marker would in fact be a same-subject switch-reference marker, and so would convey that the *pro* subject of the NP/clause is coreferential with the subject of the matrix clause. And the oblique case-marker would in fact be a different-subject switch-reference marker, so it would convey that the *pro* subject of the NP/clause is disjoint from the subject of the matrix clause.

Setting aside any potential difficulties in implementation, this system seems to adequately account for canonical case-marking in Choctaw. However, things get difficult with nominative objects. Even with the most basic clauses with nominative objects, like (124), it is not clear why the object *ofi-ak* 'dog' should have a same-subject (i.e. nominative) marker, when it is clearly not coreferential with *John*, the subject of its containing clause.

(124) **Nominative object**

79. Though the case-concord analysis of SR proposed in Camacho (2010) is quite promising.

John at ofi akósh im abíkah.
John-at ofi-ak-oosh im-abiika-h
John-NOM dog-FOC-NOM.SP DAT-sick-TNS
'John's DOG is sick.' (I_08-09-17_40)

The solution would be to say that switch-reference is sensitive not strictly to *subjecthood*, but instead to some property that is found on all subjects and certain objects (specifically the objects of dative-subject transitives). This property, is, essentially, a recapitulation of nominative case, as an independent property of noun phrases not determined by their grammatical role. This shows that even in a system in which case features or values are not directly exponed in the morphology, it would still be necessary to posit something *like* a formal nominative case feature/value to account for those instances where the same- vs. different-subject distinction comes unstuck from the subject vs. non-subject distinction.

2.8 Conclusion

In this chapter I have attempted to provide both a high-level overview of the phonology, orthography and morphosyntax of Choctaw, and a more in-depth look at some of the morphosyntactic features of Choctaw that pervade the analysis of argument structure and argument-marking over the next four chapters.

Chapter 3

The syntax of voice morphology

Many Choctaw verb stems contain overt morphology related to argument structure. Notably, a large number of Choctaw verbs participate in a partly-lexicalized causative alternation, wherein one member of the alternation is transitive and the other is intransitive. Some typical examples are given in (1).

(1) **Typical causative alternation**

a.	*fakooh-a-h*	it peeled off
	fakoh-li-h	she peeled it off
b.	*boow-a-h*	he was beaten up
	boo-li-h	she beat him up

These examples exemplify one of the most common morphological patterns in the causative alternation: the transitive alternant, which I refer to as the *active* alternant (alternatively a *lexical causative*), is marked with *-li*, and the intransitive alternant, which I refer to as *non-active*, is marked with *-a*. Note that in previous work, the active form has also been called the *v2* form, and the non-active form the *v1*, *mediopassive* or *inchoative* form (Ulrich 1986, Munro and Willmond 1994, Broadwell 2006).

Choctaw also has a productive causative: The suffix *-chi* may be appended to virtually any verb, causativizing it. Some examples are given in (2)—I refer to these as *syntactic* causatives, to be distinguished from lexical causatives discussed above.

(2) **Syntactic causativization**

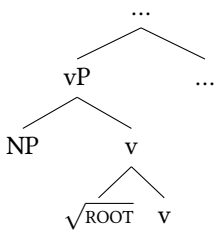
a.	*taloowa-h*	she sang
	taloowa-chi-h	she made him sing
b.	*kooli-h*	she smashed it
	kooli-chi-h	she made him smash it

These two phenomena—the causative alternation and syntactic causativization—constitute the core empir-

ical domain of this chapter. There are other aspects of Choctaw verbal morphology which are 'argument structure'-related, in particuar datives and applicatives, but I leave discussion of these until chapter 5.

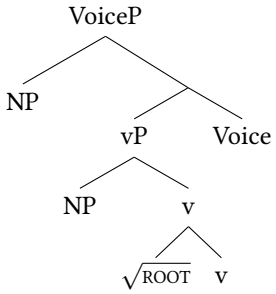
Following the discussion in §1.3.2, I assume that all verbal arguments are introduced as the specifiers of syntactic functional heads. Both non-active and active alternants have an internal argument, introduced in the specifier of the categorizing head *v*, as in (3).

(3) **Common base of actives and non-actives**



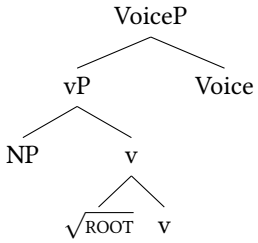
Active alternants have an additional, higher argument, introduced in the specifier of a *Voice* head that selects vP:

(4) **Structure of actives**



Non-actives are generally formed with a specifierless Voice head instead:

(5) **Structure of some non-actives**



This chapter is largely concerned with developing a taxonomy of Voice heads, and identifying their syntactic, morphological and semantic functions. In particular, I show how the Choctaw voice system provides support, at least in outline, for the analysis of voice morphology pioneered by Kastner (2016, 2020), in which voice heads may be syntactically specified either to take a specifier ('Voice$_{[+N]}$'), to obligatorily lack

a specifier ('Voice$_{[\text{-N}]}$'), or are ambivalent with respect to whether or not they take a specifier ('Voice$_{[\ ]}$').[1] I propose that each of the morphemes *-chi*, *-a* and *-li*, as illustrated in (1-2), is an exponent of one of these syntactically-distinct Voice heads. The causative suffix *-chi* is an exponent of Voice$_{[\text{+N}]}$, which must have an NP specifier. The non-active suffix *-a* is an exponent of Voice$_{[\text{-N}]}$, which must *lack* an NP specifier. And the 'active' suffix *-li* is an exponent of Voice$_{[\ ]}$, which is ambivalent regarding whether or not it takes a specifier (in (1), the *-li* forms *do* take a specifier, but as we will see other verbs formed with *-li* do not). The basic typology is laid out in (6).

(6) **Voice heads and their most common exponents**

a. Voice$_{[\text{-N}]}$ ↔ *-a* (among other exponents) ('non-active')

b. Voice$_{[\ ]}$ ↔ *-li* ('active')

c. Voice$_{[\text{+N}]}$ ↔ *-chi* ('causative')

Roots then control which Voice heads they can and cannot associate with, by something like syntactic selection (though see §1.3.2 and §3.2.1 for some caveats about how it's slightly different from 'normal' selection). So for instance, the roots in (1) may 'select' Voice$_{[\text{-N}]}$ (*-a*) or Voice$_{[\ ]}$ (*-li*), thus deriving the attested causative alternation. In addition, a Voice$_{[\text{+N}]}$ (*-chi*) head may freely select a VoiceP as its complement, thus creating a syntactic causative.

I also show how roots may exert more *indirect* control over their immediate surrounding functional structure, by conditioning which contextual *alloseme* a given Voice head may have. Allosemic conditioning in this way may, for instance, force a syntactically-underspecified Voice$_{[\ ]}$ head to take, or not take, a specifier. Regarding contextual allosemy more broadly, I show that none of the Voice heads in (6) can be uniquely associated with a single interpretation, but rather that their interpretation varies, and is conditioned by the properties of their immediate surrounding root and functional structure. In particular, I show how each of the three heads in (6) has at least *two* contextually-conditioned interpretations. Since (at least) Voice$_{[\text{-N}]}$ also displays morphological allomorphy in addition to semantic allosemy, the Choctaw voice system, when considered in sum, makes a clear case for abstract syntactic structure (e.g. a functional head like Voice$_{[\text{-N}]}$), onto which various semantic denotations and morphological realizations can be inserted.

The chapter is laid out as follows. In §3.1 I describe the main morphological and semantic properties of the causative alternation. §3.2 outlines the main analytical contribution of this chapter, concerning how roots are combined with external arguments via different Voice heads, and what those Voice heads do at the morphological and semantic interfaces. §3.3 discusses the theoretical stakes of the analysis. §3.4 discusses Voice$_{[\ ]}$ (*-li*) and how it is employed to form both active verbs (when it takes a specifier) and non-active verbs

1. Kastner's (2020) notation has Voice heads equipped with [D] features rather than [N] features.

(when it omits a specifier). §3.5 discusses Voice$_{[+N]}$ (*chi*), and how it used to form both *lexical* causatives (i.e. actives), when it takes vP as its complement, and *syntactic* causatives, when it takes another VoiceP as its complement. §3.6 shows how the three Voice heads (*-a*, *-li*, *-chi*) interact with roots which participate in the pluractional alternation, showing that Voice selection is a property both of roots but also of neighboring functional structure including v. §3.7 then discusses the various allosemes and allomorphs of non-active Voice$_{[-N]}$. §3.8 finishes by honing in on syntactic causatives in Choctaw—the only configuration where a Voice head takes a VoiceP as its complement—and §3.9 concludes.

3.1 Morphology and semantics of the causative alternation

In this section, I briefly outline the empirical picture of the morphology of the causative alternation (§3.1.1) and the interpretation of the alternation (§3.1.2). I also provide a brief note on the degree of cross-speaker variability in this domain (§3.1.3).

3.1.1 Morphology

The most typical morphological pattern in the causative alternation is for the active alternant to be marked with *-li* and the non-active with *-a*, as was shown in (1). Some more examples are given in (7). Two things are worth noting immediately: firstly, the /l/ of *-li* often assimilates to the preceding consonant, and sometimes triggers assimilation of the preceding consonant. Secondly, the non-active suffix *-a* is often accompanied by, or replaced, by an infix <*l*>, as in (7d). <*l*> also undergoes various assimilatory processes.

(7) **Causative alternation formed with *-a*/*-li***

a.	*nalh-a-h*	he was stung
	nalh-lhi-h	it stung him
b.	*mokoof-a-h*	it came loose
	mokof-fi-h	she released it
c.	*tiw-a-h*	it opened
	tiw-wi-h	she opened it
d.	*alwash-a-h*	it (was) fried
	awash-li-h	she fried it

The list of clusters affected by assimilation when *-li* abuts a preceding consonant is given in (8)—see Ulrich (1986:127-132) and Broadwell (2006:124) for further discussion and complexities.

(8) **Bidirectional assimilation: *-li* and preceding consonant**

b-li	>	bli/bbi	*alhtob-a*	*atob-**li**/atob-**bi***	‘pay’
f-li		ffi	*bokaaf-a*	*bokaf-**fi***	‘burst’
lh-li		lhlhi	*nalh-a*	*nalh-**lhi***	‘sting’
m-li		mmi	*alhkam-a*	*akam-**mi***	‘close’
n-li		nni	*tan-a*	*tan-**ni***	‘weave’
p-li		bli	*tap-a*	*tab-**li***	‘cut’
t-li		lli	*foloot-a*	*folol-**li**-chi*	‘turn around’
w-li		wwi	*tiw-a*	*tiw-**wi***	‘open’

For discussion of the assimilation of infixed <*l*>, see Ulrich (1986:132-137). For now I ignore these assimilations, and I treat infixed <*l*> as a kind of secondary exponent of the suffix *-a*—see §3.7.6 for discussion and implementation.

After *-a*/*-li*, another common morphological pattern is for the active alternant to be marked with *-li*, while the non-active alternant goes unmarked (here the root must end in a vowel) and has a stative, property-denoting interpretation. Some examples are given in (9).[2]

(9) **Causative alternation formed with Ø/*-li***

a.	*ossi-h*	it is small
	ossi-li-h	she shrunk it
b.	*tapaski-h*	it is narrow
	tapaski-li-h	she narrowed it
c.	*losakbi-h*	it is gray
	losakbi-li-h	she made it gray(er)
d.	*kapassa-h*	it is cold
	kapassa-li-h	she cooled it
e.	*lacha-h*	it is wet
	lachaa-li-h	she wetted it
f.	*awaata-h*	it is wide
	awaata-li-h	she widened it

A third pattern is one where the non-active alternant goes unmarked, just as in (9), and the active alternant is marked with *-chi*. Some examples are given in (10).

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2. Note that the examples in (9d-f) could *not* be analyzed as being composed of an /a/-final root followed by the non-active suffix *-a*, e.g. $\sqrt{\text{KAPASSA}}$ + *-a*. This is because we know that when an /a/-final root is followed by the non-active suffix *-a*, a /y/ is inserted between them (Ulrich 1986:119):

(i) a.	*talaa-li-h*	‘she set it down’
	*talaa**y**-a-h*	‘it was set down’
b.	*okchaa-li-h*	‘she woke him up’
	*okch**á**y-a-h*	‘he is alive’
c.	*bachaa-li-h*	‘she laid it across’
	*bachaa**y**-a-h*	‘it is laying across’

(10) **Causative alternation formed with Ø/*-chi***

a.	*nona-h*	it cooked
	nonaa-chi-h	she cooked it
b.	*bila-h*	it melted
	bilaa-chi-h	she melted it
c.	*shila-h*	it dried
	shilaa-chi-h[3]	she dried it

Recall that *-chi* is also used to form syntactic causatives from all verbs (cf. (2)). This recycling of the same form in both lexical causatives and syntactic causatives is key to the analysis, outlined in §3.2, that they make use of the same piece of functional structure.

A fourth common morphological pattern is for the non-active alternant to be marked with *-li*, while the active alternant takes *-chi*. Some examples are given in (11).

(11) **Causative alternation formed with *-li*/*-chi***

a.	*shalal-li-h*	he slipped
	shalaa-chi-h[4]	she dragged him
b.	*iskoo-li-h*	it is short
	iskoo-chi-h[5]	she shortened it
c.	*takaa-li-h*	it is hanging
	takaa-chi-h	she hung it up
d.	*moshoo-li-h*	it went out (of a light)
	moshoo-chi-h	she turned it off

This is particularly interesting because the *-li*, which usually forms the active alternant, is now forming the non-active.

Another patterns is much rarer, but is attested and worth noting. The non-active is formed with *-a* and the active with *-chi*, as in (12).[6]

(12) **Causative alternation formed with *-a*/*-chi***

a.	*lhabóow-a*	round (of potatoes)
	lhaboo-chi-h	she boiled it
b.	*lhipiiy-a-h*	it is spilled/overturned
	lhipii-chi-h	she overturned it

3. Some speakers use the form *shiliilih* 'she dried it'. *Shilaa-chih* seems to be an innovation.

4. The root $\sqrt{\text{SHALA}}$ ends in *-l* when followed by *-li* but not when followed by *-chi*. I assume that this is idiosyncratic allomorphy.

5. A common analysis of forms like *iskoo-chi* 'she shortened it' is that they are the result of a rule of '*-li*-deletion' applying to an underlying form *iskoo-li-chi* (cf. Nicklas 1974:258, Ulrich 1986:270-276, Broadwell 2006:130 on Choctaw; Munro 1985b on Chickasaw). See §3.5.5 for a critical discussion of '*-li*-deletion', and a reanalysis of the data.

6. *Lhabóowa* mainly appears in the context of *ahii lhabóowa* '(white) potato', and *lhipiichi* varies idiolectally with *lhipiili*.

c. *ittifilaamoow-a-h* — they dispersed
ittifilaamoo-chi-h — she separated them

d. *hikiiy-a-h* — she stood up
hilii-chi-h — she stood it up

A summary of the five main patterns is given in (13).

(13) **Major morphological patterns in the causative alternation**

non-active	active (lex. caus.)	example root
-a	*-li*	$\sqrt{\text{FAM}}$ 'whip'
-Ø	*-li*	$\sqrt{\text{OSSI}}$ 'small'
-Ø	*-chi*	$\sqrt{\text{BILA}}$ 'melt'
-li	*-chi*	$\sqrt{\text{SHALA}}$ 'drag'
-a	*-chi*	$\sqrt{\text{LHIPI}}$ 'overturn'

The patterns described in this section are simplified, omitting all allomorphy. However, at this stage the main thing to note is that the suffix *-li* is used to form both actives and non-actives. We now turn to the interpretation of the alternants.

3.1.2 Interpretation

The active, transitive alternant in an alternating pair, usually marked with *-li* or *-chi*, generally has a fairly predictable interpretation. Specifically, the verb is interpreted as denoting a change directly brought about by some syntactically-present agent or causer, as in (14) (though there are some revealing exceptions—see §3.5.8).

(14) *Allat ápisa kólitok.*
alla-t aapisa kooli-tok
child-NOM window smash.ACT-PST
'The kid smashed the window.' (A_10-09-18_71)

Note that while there has been much work investigating the nature of the roles often lumped together under "agent" (e.g. Dowty 1991, Reinhart 2003, Folli and Harley 2005, Ramchand 2008), I mostly set aside these distinctions for this dissertation, and treat them as the same role for the purposes of the syntax-semantics mapping (following e.g. Alexiadou et al. 2015).[7]

In contrast to the fairly invariant interpretation of active alternants, the interpretation of non-active, intransitive alternants varies along at least two dimensions: event structure, and the presence vs. absence of an implicit agent. Regarding event structure, non-active verbs fall into two broad classes, which could be termed 'naturally eventive' and 'property-denoting'. The naturally eventive class of non-actives verbs tend

7. See §3.8.2 for discussion of whether causees in syntactic causatives have the same kind of 'agent' role as agent subjects of non-causativized verbs.

to sport the *-a* suffix and are systematically ambiguous between a result-state and an eventive interpretation, as shown in (15) (cf. Broadwell 2006:127).

(15) **Non-active forms have both result-state and eventive interpretations**

lhilaafa-h
rip.NACT-TNS
'It tore/it is torn.' (E_10-21-18, judgment)

For the purposes of this chapter, I will provide eventive rather than result-state English translations (i.e. 'it tore' rather than 'it is torn'). The intention here is to avoid the ambiguity of the English 'be V-ed' construction, which can generally be read as a verbal or adjectival passive, and thus would neutralize the distinction between those non-actives that introduce implicit agents and those that do not. That means that when I *do* translate a Choctaw non-active verb 'be V-ed', the reader should understand this verb as having an obligatory implicit agent (i.e. they should read it as a verbal rather than adjectival passive).

While the naturally-eventive class of non-active verbs tend to show the suffix *-a*, the property-denoting class generally lacks any obvious argument-structure-related morphology—we just see a 'bare' root. These verbs, by default, have a non-resultative stative interpretation, encoding the kinds of meanings that are often encoded by adjectives, in languages that have them (see §2.6.2 for my assessment of whether 'adjective' is a lexical category in Choctaw). Some examples of property-denoting verbs with clearly-stative interpretations were given in (9). However, (16) shows that these verbs *can* be made to have eventive interpretations, with some context.

(16) **Property-denoting non-actives can have eventive readings**

Hinat chíkossi o̲t apissatok.
hina-t chiikossi o̲t apissa-tok
road-NOM short.time go.and straight-PST
'The road straightened out quickly.' (D_10-15-18_73)

Note that aspectual morphology ('grades', cf. §2.5.4) and syntax can impact the event structure of all verbs, including non-actives, in complex ways that are outside the scope of this dissertation.

I now turn to a different dimension of variation in non-active verbs: whether or not they introduce an implicit agent. Part of the empirical contribution of this chapter is showing that non-active verbs come in three classes with respect to the presence vs. absence of an implicit agent.

With some roots, the non-active form cannot have an implicit agent. These verbs have only non-agentive (stative or inchoative) interpretations. All property-denoting non-actives (e.g. (9)) fall into this class. Some examples of naturally eventive verbs which also fall into this class are shown in (17). I refer to this class of non-actives as the *inchoative* class.

(17) **Alternations with *inchoative* non-actives**

a.	*tokaaf-a-h*	it exploded/fired
	tokaf-fi-h	she fired it
b.	*mokoof-a-h*	it came loose
	mokof-fi-h	she let it go
c.	*toshtow-a-h*	it came apart
	toshto-li-h	she pulled it apart
d.	*tiw-a-h*	it opened
	tiw-wi-h	she opened it
e.	*alhkam-a-h*	it closed
	akam-mi-h	she closed it

With another set of roots, the non-active form *must* have an implicit agent. Some examples, which are best translated into English as passives, are shown in (18). Following Munro and Gordon (1982), I refer to these verbs as members of the *lexical passive* class.

(18) **Alternations with *lexical passive* non-actives**

a.	*fam-a-h*	he was whipped
	fam-mi-h	she whipped him
b.	*boow-a-h*	he was beaten up
	boo-li-h	she beat him up
c.	*taptow-a-h*	it was chopped up
	tapto-li-h	she chopped it up

And with yet another set of roots, it appears as though the non-active alternant *optionally* introduces an implicit agent. Some such roots are provided in (19). I refer to these non-actives as members of the *mediopassive* class.

(19) **Alternations with *mediopassive* non-actives**

a.	*alwash-a-h*	it (was) fried
	awash-li-h	she fried it
b.	*bil-a-h*	it (was) melted
	bilaa-chi-h	she melted it
c.	%*kinaaf-a-h*[8]	it (was) toppled
	kinaf-fi-h	she toppled it
d.	*libiish-a-h*	it (was) heated
	libish-li-h	she heated it
e.	*lhakoof-a-h*	he escaped/was saved
	lhakof-fi-h	she saved him
f.	*chokchow-a-h*	he laugh/was tickled
	chokcho-li-h	she tickled him

8. Some speakers I consulted seem to allow *kinaafa* to only have a inchoative interpretation ('it toppled'). For these speakers, it would fall into the same class as the verbs in (17).

The claims regarding the presence or absence of an implicit agent for the three classes of non-active verbs—inchoative, lexical passive and mediopassive—are empirically supported in §3.7.

In addition to these three interpretations, there is at least one further kind of interpretation, found with some non-active verbs, which I refer to as *reflexive*, but which subsumes inherent reflexive, motion and body-action interpretations. Some examples are given in (20).

(20) **Alternations with *reflexive* non-actives**

a.	*yilhib-li-h*	she ran them off
	yihiip-a-h	they ran off
b.	*lohm-i-h*	she hid it
	lom-a-h	she hid (herself)
c.	*katab-li-h*	she blocked it (with something)
	kataap-a-h	she got in the way
d.	*filim-mi-h*	she flipped it
	filiim-a-h	it rolled over/**she turned her head**

These verbs require some special consideration, since they take ERG subject agreement rather than the ABS subject agreement found for all other non-actives. They are discussed in §3.7.7.

Before moving on to §3.2, in which I outline an analysis for the facts as described here, I provide a brief note on inter-speaker variation in this domain, of which there seems to be a lot.

3.1.3 Lexicalization and inter-speaker variability

I mentioned at the start of this chapter that the causative alternation is partly lexicalized. It also shows a lot of inter-speaker variability. Of the >200 pairs of active and non-active verbs identified in the appendix to Ulrich (1986), the speakers I interviewed would tend to recognize only a subset of them. Large numbers of the pairs listed seem to have fallen out of use among all but elderly speakers. Some marginal pairs, that were recognized or at least vaguely recalled by some but not all interviewees, are given in (21).

(21) **Marginal alternating verbs**

a.	*cholhaaf-a-h*	it split off
	cholhaf-fi-h	she split it off
b.	*bachooh-a-h*	they lay in rows
	bachoh-li-h	she lay them in rows
c.	*pataaf-a-h*	it split
	pataf-fi-h	she split it

In many cases, an interviewee would recognize one member of a pair and not the other. The following non-pairs are reported from consulting just a single speaker. So while this data is likely not replicable across many speakers, it illustrates the point that active and non-active pairs are not related in the same productive

manner as, for example, active/passive pairs in English.[9]

(22) **Incomplete alternations (one speaker)**

a.	**lob-a-h*	
	lob-bi-h	he pulled it out
b.	**lhokaaf-a-h*	
	lhokaf-fi-h	he peeled it (of animal skin)
c.	**polh-a-h*[10]	
	polh-lhih-h	he folded it

Furthermore, a number of non-active forms exist only as nominalizations for many speakers (see the appendix to Ulrich 1986 for many such examples):

(23) **Alternations where the non-active form exists only as a nominalization**

a.	*anokfil-li-h*	she thought it
	anokfíl-a	thought (noun)
b.	*hotiina-h*[11]	she counted it
	holhtína	number
c.	*lhọb-li-h*	she made a hole in it
	lhóp-a	hole

And not all historically-related pairs are recognized by speakers as being related, and it is likely that, synchronically, they exist on a continuum. (24) provides some further pairs formed from the same historical root, but which are increasingly less likely to be synchronically related in the minds of speakers.

(24) **Diachronically-related alternations**

a.	*tooli-h*	she played a ball game
	tóowa	ball
b.	*hopooni-h*	she cooked it
	holhpóni	hominy
c.	*ala-h*	she arrived here
	alla[12]	child

In light of the idiosyncrasy and non-productivity of the active/non-active alternation in Choctaw, one might be tempted to analyze it using fundamentally different tools from those used to analyze productive, fully-predictable valency-determining morphological patterns (e.g. the passive in English). Being non-productive and having numerous root-specific idiosyncracies, we might think to put the formation of Choctaw

9. There are a very large number of intransitive inchoative verbs ending in *-a* which lack *-li* counterparts (e.g. *ittola* 'fall'). However, there is no way to tell, for these non-alternating *-a* verbs, whether the final *-a* is part of the root or an exponent of Voice.

10. The same speaker says that he may use the contracted participle form *polht*, which must be formed from *polha+t*, further underscoring the degree to which the causative alternation is lexicalized in Choctaw.

11. Some actives, like *hotiina* 'count', are morphologically unmarked. See 3.9.1 for discussion of zero-allomorphs of the Voice heads.

12. The connection between *ala* and *alla* is advanced by Ulrich (1986:328).

active and non-active verbs in a word-building component of the grammar, rather than the syntactic derivation, following Chomsky (1970) and the *Lexicalist* enterprise he initiated. I am unable to enter the Lexicalism debate in a serious manner here—the idea that there is no word-building component in the lexicon is baked into the theoretical assumptions in which this thesis is grounded, and it would take us too far afield to interrogate them. Nonetheless, I would like to call attention to two morphemes which appear to straddle the 'lexical'-syntactic divide, and which, to my mind, make a unified, single-component analysis more appealing.[13]

The first of these morphemes is *-chi*, which I argue to be an exponent of $\text{Voice}_{[+N]}$. As shown in the introduction to the section, *-chi* is used productively to form syntactic causatives with a fully predictable semantic and morphosyntactic signature. However, I show in §3.5 that *-chi* also functions as the root-selected exponent of active voice, with certain roots. The second of these lexical-and-syntactic morphemes is *-li*, which I argue to be an exponent of $\text{Voice}_{[\,]}$. Although I have discussed in this section how *-li* is used to expone active or non-active voice *only* with particular roots, and does not do so productively, there is a set of roots which *-li* can attach to in a fairly productive manner. These are the property-denoting roots described in §3.1.1, which seem, as a class, to have no overt morphology for their non-actives and to take *-li* for their actives. Since *-chi* and *-li* interact with the form and interpretation of particular roots in specific, idiosyncratic ways *and* have a predictable syntactic effect on the clauses where they appear, they strike me as good candidates for morphemes which could be analyzed either as lexical or syntactic, depending on which part of Choctaw grammar one looked at.

3.2 Outline of analysis

I follow the syntactic, 'constructivist' model of argument structure outlined in §1.3.2, in which acategorical roots combine with a host of functional heads (v, Voice, Appl) to build up verbal morphology and verbal meaning, and to introduce syntactic arguments. A given syntactic head in the extended projection of the verb root may introduce a syntactic argument in its specifier, it may have some morphological realization, and it may contribute some piece of interpretation (though it only need do at most one of these things).[14]

There are two other key conceptual parts of the model—both are provided in §1.3 but I briefly recap them here. Firstly, the interpretation and morphological realization of roots and functional heads may be

13. Note also that other languages with non-productive voice alternations have also been insightfully analyzed with the syntactic, rather than lexical, tools that I employ in this thesis. See, for instance, Alexiadou (2013) and Alexiadou et al. (2015) on Palestinian Arabic, in which the passive voice is lexically-restricted and phonologically idiosyncratic.

14. Perhaps it is possible for a syntactic head to do none of these things—that is: fail to introduce an argument, go morphologically unrealized, and contribute no semantics. But such a head would be hard for the child learner (or adult researcher) to detect. I explicitly argue against a null, functionless, meaningless Voice head in §3.2.2, when discussing property-denoting non-actives.

conditioned by their syntactic, semantic and morphological environment. When the morphological realization of an element is conditioned by its syntactic and morphological context, we typically refer to this as *allomorphy*. The idea that the semantic interpretation of elements may be conditioned by their syntactic and semantic context is less standard, but I adopt it here, employing the framework of contextual *allosemy* (see §1.3.5 and references cited there). Secondly, I adopt Kastner's (2016, 2020) analysis that functional heads—in particular Voice—may have one of three syntactic specifications. They may *require* an NP specifier ('$X_{[+N]}$'), they may *ban* an NP specifier ('$X_{[-N]}$'), or they may be ambivalent about whether they have a specifier ('$X_{[\ ]}$'). Rules of allomorphy or allosemy may refer individually to one of the three Voice heads that are predicted to exist in this typology—$Voice_{[+N]}$, $Voice_{[-N]}$ and $Voice_{[\ ]}$.

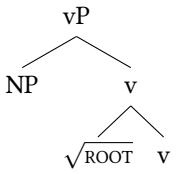
In this section, I outline the canonical distribution of $Voice_{[+N]}$, $Voice_{[-N]}$ and $Voice_{[\ ]}$. I start with the canonical causative alternation in *-a*/*-li*, before moving on to syntactic causativization with *-chi*.

3.2.1 The causative alternation: merging different Voice heads with vP

Theoretical analyses of causative alternations, within English and cross-linguistically, have taken one of three main approaches. The first, advocated by Dowty (1979), Pesetsky (1996), and others is the 'causativization' approach, which holds that the intransitive (non-active) form is basic and the transitive (active) form is derived from it by some lexical or syntactic rule. The second, advocated by Chierchia (1989/2004), Reinhart (2003), among others, is the 'inchoativization' or 'detransitivization' approach, in which the transitive is basic and the intransitive is derived. The third approach, which I follow here, is what Schäfer (2009) refers to as the 'common base' approach. Advocated by Pylkkänen (2002, 2008), Alexiadou and Anagnostopoulou (2004), Alexiadou et al. (2006, 2015), among many others, it holds that neither the transitive nor intransitive alternant is derived from the other—rather, both forms are derived from a common base. In the framework adopted in this paper, this process of 'derivation' is simply syntactic structure-building. The 'common base' shared by active and non-active forms is the syntactic constituent in (25), a vP containing the root, a verbalizing head *v* and an internal argument. Then the active and non-active are derived by merging different pieces of functional material atop this common structure.[15]

15. In many lanuages, the morphology of the causative alternation would lead one to a causativization or detransitivization analysis, depending on which alternant is more complex. As Haspelmath (1993) shows, both patterns are attested in the languages of the world. The so-called *equipollent* nature of the common Choctaw *-a*/*-li* alternation—meaning neither form is morphologically derived from the other—biases us in favor of the common base analysis, which I adopt.

(25) **Common base of actives and non-actives**



Turning to the analysis of Choctaw, it would be nice if we could claim that all non-active verbs (inchoatives, lexical passives, mediopassives and statives) were formed by merging one syntactic head with vP (e.g. 'Voice$_{\text{Non-active}}$'), and all active, transitive verbs by merging a different head (e.g. 'Voice$_{\text{Active}}$'). Unfortunately, the morphology of Choctaw makes this simple picture hard to maintain. Consider the main morphological patterns identified for the causative alternation (26), repeated from (13).

(26) **Major morphological patterns in the causative alternation**

non-active	active (lex. caus.)	example root
-a	*-li*	$\sqrt{\text{FAM}}$ 'whip'
-Ø	*-li*	$\sqrt{\text{OSSI}}$ 'small'
-Ø	*-chi*	$\sqrt{\text{BILA}}$ 'melt'
-li	*-chi*	$\sqrt{\text{SHALA}}$ 'drag'
-a	*-chi*	$\sqrt{\text{LHIPI}}$ 'overturn'

For one thing, *-li* is used to form both active verbs *and* non-active verbs—this makes it impossible to analyze as an exponent of either an active or non-active Voice head. For another thing, active verbs are formed using two different morphemes: *-li* and *-chi*, and they both hold down second jobs. As discussed, *-li* moonlights as a *non*-active suffix with some roots, while *-chi* is better known for its role as the syntactic causativizer.

Fortunately, Kastner's (2016, 2020) proposal that Voice comes in three syntactic variants provides an ideal solution. He argues that there may be three Voice heads in a language: Voice$_{[\text{-N}]}$, which cannot introduce an NP specifier, Voice$_{[\text{+N}]}$, which obligatorily introduces an NP specifier, and Voice$_{[\ ]}$, which is ambivalent about whether or not it introduces an NP specifier.[16] I propose that each of *-a*, *-chi* and *-li* is an exponent of one of these heads. First, *-a*, which is only ever used to form non-active verbs with no syntactically-projected external argument, spells out Voice$_{[\text{-N}]}$.[17] Second, *-chi*, which is only ever used to form active verbs which *always* have a syntactic external argument, spells out Voice$_{[\text{+N}]}$ (and as we will see, this head is also used to form syntactic causatives, which always feature an extra agent). Thirdly, the mercurial *-li*, which can be used to form both non-actives and actives, spells out underspecified Voice$_{[\ ]}$. These mappings are given

16. A stated earlier, Kastner actually argues for [D] features rather than [N] features. But for the analysis at hand, this difference is notational.

17. *-a* is used to form some reflexive and body-action verbs, whose subject is interpreted as an agent. In §3.7.7 I suggest that Spathas et al.'s (2015) analysis of Greek reflexive middles can be applied to Choctaw: the syntactic subject is still an *internal* argument, and the agentive semantics come from a sematically-projected implicit agent, which is made coreferential with the theme by an implicature introduced by the root.

again in (27).

(27) **Voice heads and their most common exponents**

a. $\text{Voice}_{[\text{-N}]} \leftrightarrow$ *-a* (‘non-active’)

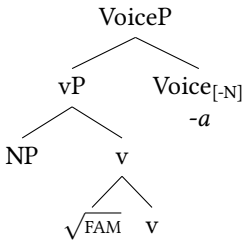
b. $\text{Voice}_{[\ ]} \leftrightarrow$ *-li* (‘active’)

c. $\text{Voice}_{[\text{+N}]} \leftrightarrow$ *-chi* (‘causative’)

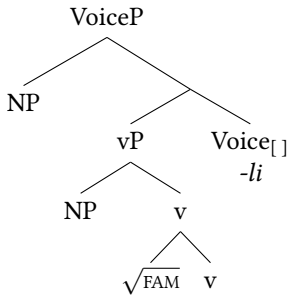
Different roots are then lexically specified to merge only into structures with particular Voice heads. This follows work by Arad (2003, 2005), Marantz (2007, 2013a), Harley (2008), Wood (2016) and others, arguing that roots have a certain degree of influence over the functional structure in which they ensconced. For instance, the root $\sqrt{\text{FAM}}$ ‘whip’ may merge only with a structure headed by $\text{Voice}_{[\text{-N}]}$ or $\text{Voice}_{[\ ]}$, as shown in (28).

(28) **$\sqrt{\text{FAM}}$ requires $\text{Voice}_{[\text{-N}]}$ (*-a*) or $\text{Voice}_{[\ ]}$ (*-li*)**

a.



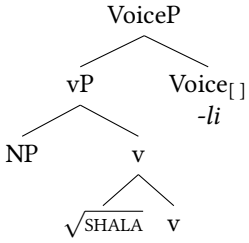
b.



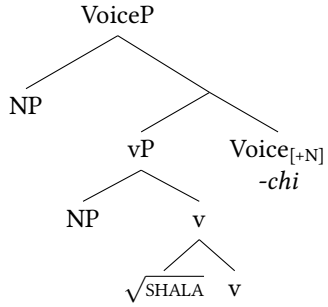
In contrast, the root $\sqrt{\text{SHALA}}$ ‘slip’/‘drag’ may merge only with a structure headed by $\text{Voice}_{[\ ]}$ or $\text{Voice}_{[\text{+N}]}$, shown in (29).

(29) **$\sqrt{\text{SHALA}}$ requires $\text{Voice}_{[\ ]}$ (*-li*) or $\text{Voice}_{[\text{+N}]}$ (*-chi*)**

a.



b.

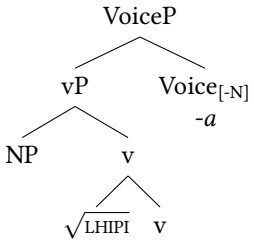


And the root $\sqrt{\text{LHIPI}}$ ‘overturn’ (for some speakers) may merge only with a structure headed by $\text{Voice}_{[\text{-N}]}$ or $\text{Voice}_{[\text{+N}]}$, as in (30).[18]

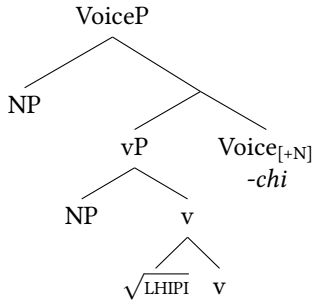
18. Although for many (if not most) speakers, *lhipiichi* ‘overturn’ is interchangeable with *lhipiili*.

(30) $\sqrt{\text{LHIPI}}$ **requires Voice$_{[\text{-N}]}$ (*-a*) or Voice$_{[\text{+N}]}$ (*-chi*)**

a.



b.



I refer to roots' requirements for particular functional heads and not others as *selectional* restrictions (although since the root and the Voice heads are not structurally adjacent, this does not quite conform to the traditional definition of selection). The Voice-selecting properties of some other Choctaw roots, which behave the same as $\sqrt{\text{FAM}}$, $\sqrt{\text{SHALA}}$ and $\sqrt{\text{LHIPI}}$, are given in (31).

(31) **Some roots and the Voice heads they can co-occur with**

	-a (Voice$_{[\text{-N}]}$) non-active	*-li* (Voice$_{[\,]}$) non-active/active	*-chi* (Voice$_{[\text{+N}]}$) active
$\sqrt{\text{FAM}}$	*fam-a* 'was whipped'	*fam-mi* 'whipped'	–
$\sqrt{\text{TIW}}$	*tiw-a* 'opened' (intr.)	*tiw-wi* 'opened' (tr.)	–
$\sqrt{\text{AWASH}}$	*alwash-a* '(was) fried'	*awash-li* 'fried' (tr.)	–
$\sqrt{\text{SHALA}}$	–	*shalal-li* 'slipped/slid'	*shalaa-chi* 'dragged'
$\sqrt{\text{TAKA}}$	–	*takaa-li* 'hung' (intr.)	*takaa-chi* 'hung' (tr.)
$\sqrt{\text{MOSHO}}$	–	*moshoo-li* 'went out'	*moshoo-chi* 'doused/turned off'
$\sqrt{\text{LHIPI}}$	*lhipiiy-a* 'overturned' (intr.)	(*lhipii-li*)	*lhipii-chi* 'overturned' (tr.)

Of course, a root may also opt to co-occur with just one of these Voice heads—see sections 3.1.3 and 3.5.4 for some non-alternating verbs with overt voice-marking morphology.

At this point, the reader may be wondering how a root can force an *underspecified* Voice$_{[\,]}$ head to introduce (28b) or omit (29a) a specifier. The Voice$_{[\,]}$ itself makes no demand either way, so what's to stop a root $\sqrt{\text{FAM}}$ from forming a non-active with *-li*, or a root $\sqrt{\text{SHALA}}$ from forming an active with *-li*? The simplified answer is that roots can make *indirect* demands on their surrounding functional structure, which includes whether or not their local Voice$_{[\,]}$ head takes a specifier. They do this by conditioning particular *allosemes* of Voice$_{[\,]}$. If the root-conditioned alloseme of Voice$_{[\,]}$ introduces an unsaturated thematic role, then the most direct way of satisfying that role is by merging an NP specifier.[19] Alternatively, if the root-conditioned alloseme of Voice$_{[\,]}$ does *not* introduce an unsaturated role, then Voice$_{[\,]}$ will have a hard time composing with an NP specifier. See §3.4.1 for more discussion of how this works.

19. In §3.4.4, the 'extra affectedness' use of the suffix *-chi*, documented by Broadwell (2006:130), is derived by *failing* to immediately saturate the agent role introduced by Voice$_{[\,]}$.

The full range of possible root-Voice selection patterns is shown in (32). Additionally, for those roots which can combine with underspecified Voice$_{[\ ]}$, I also show whether they demand the presence or absence of a specifier on Voice$_{[\ ]}$. The parts of this table which are not yet comprehensible should become so at a later point in this chapter. In particular: roots which have the option of not combining with a Voice head at all (they are uniformly *property-denoting*, cf. §3.9.1), and roots which participate in a '*-f*/*-h*' pluractional alternation, in the last two rows of the table (cf. §3.6).

(32) **Co-occurrence possibilities for roots, Voice heads and specifiers**

	no Voice property-denoting	*-a* (Voice$_{[-N]}$) non-active	*-li* (Voice$_{[\ ]}$) non-active/active	*-chi* (Voice$_{[+N]}$) active	cf.
$\sqrt{\text{OSSI}}$	*ossi* 'small'	–	*ossi-li* (+Spec.) 'shrink'	(*ossi-chi*) 'make small'	§3.9.1
$\sqrt{\text{APISSA}}$	*apissa* 'straight'	–	*apissa-li* (+Spec.) 'straighten'	*apissa-chi* 'be focused on'	§3.5.5, §3.9.1
$\sqrt{\text{HAKSI}}$	*haksi* 'drunk/confused'	–	–	*haksi-chi* 'trick'	§3.5.7
?$\sqrt{\text{ITTOL}}$[20]	–	*ittol-a* 'fell'	–	–	
$\sqrt{\text{HAB}}$	–	–	*hab-li* (+Spec.) 'kicked'	–	§3.4
$\sqrt{\text{CHA̲PO}}$	–	–	*cha̲po-li* (-Spec.) 'sweet'	–	§3.4.2
$\sqrt{\text{ATAAPA}}$	–	–	–	*ataapa-chi* 'stopped' (tr.)	3.5.4
$\sqrt{\text{FAM}}$	–	*fam-a* 'was whipped'	*fam-mi* (+Spec.) 'whipped'	–	§3.2.1
$\sqrt{\text{SHALA}}$	–	–	*shalal-li* (-Spec.) 'slipped/slid'	*shalaa-chi* 'dragged'	§3.2.1, §3.5.5
%$\sqrt{\text{LHIPI}}$	–	*lhipiiy-a* 'overturned' (intr.)	%–	*%lhipii-chi* 'overturned' (tr.)	§3.2.1
$\sqrt{\text{APAKFO}}$	–	*apakfoow-a* 'was wrapped'	*apakfoh-li* (+Spec.) 'wrapped/surrounded'	*apakfoo-chi* 'wrapped tightly'	§3.5.5
$\sqrt{\text{KALA}}$ + f [-Pl]	–	*kalaaf-a* 'was scratched'	*kalaf-fi* (+Spec.) 'scratched it'	–	§3.6
$\sqrt{\text{KALA}}$ + h [+Pl]	–	–	*kalah-li* (-Spec.) 'were scratched'	*kalah-chi* 'scratched them'	§3.6

Next, I outline how the three Voice heads introduced here are interpreted.

3.2.2 Interpreting the Voice heads

As discussed in §3.1.2, the active alternant generally receives a (proto)-agent interpretation, whether it is formed with *-li* (Voice$_{[\ ]}$) or *-chi* (Voice$_{[+N]}$). I propose that these two Voice heads both have an alloseme that introduces an open agent role, as in (33) (see §1.3.5 for exposition of how these allosemes combine with the denotation of vP and their argument). I analyze these allosemes as default or elsewhere allosemes, inserted when no other rule would insert a denotation at this terminal. But, as we will see, these Voice heads do have other contextually-conditioned allosemes too.

20. There is no way of telling whether *ittola* 'fall' is composed of a root $\sqrt{\text{ITTOL}}$ followed by non-active *-a*, or whether it is a root $\sqrt{\text{ITTOLA}}$ with no overt voice morphology.

(33) **Voice$_{[\ ]}$ and Voice$_{[+N]}$ can introduce open agent roles**

a. $[\![\ \text{Voice}_{[\ ]}\ ]\!] \leftrightarrow \lambda x.\lambda e.\textsc{agent}(x, e)$

b. $[\![\ \text{Voice}_{[+N]}\ ]\!] \leftrightarrow \lambda x.\lambda e.\textsc{agent}(x, e)$

Let's consider now the Voice heads used to form *non*-active verbs: Voice$_{[-N]}$ (*-a*) and, once again, Voice$_{[\ ]}$ (*-li*). Recall from §3.1.2 that non-active verbs fall into two classes with respect to event structure—adjective-like and naturally eventive. I will return to the adjective-like verbs in a moment, and first consider only the naturally eventive class. §3.1.2 also asserted that the class of naturally eventive verbs divides into three categories with respect to the presence vs. absence of an implicit agent (I provide empirical support for this classification in §3.7):

(34) **Non-active verbs: classification with respect to implicit agent**

a. **Inchoative**: *cannot* introduce an implicit agent

b. **Lexical passive**: *must* introduce an implicit agent

c. **Mediopassive**: *may* introduce an implicit agent

I follow a line of work in which agents, implicit and otherwise, are introduced in the denotation of a Voice head, and not by the root or *v* (Anagnostopoulou 2003a, Alexiadou et al. 2006, Schäfer 2017, a.m.o.).[21] The root does, however, seem to determine which of the classes in (34) a given non-active verb belongs to, so I assume that the interpretation of the Voice head is conditioned by the root. I therefore propose that the dedicated non-active Voice head Voice$_{[-N]}$ (*-a*) has (at least) the two allosemes in (35) (I discuss non-actives with Voice$_{[\ ]}$ (*-li*) momentarily). I include a list of roots in the conditioning environment for each rule, since it is not possible at the stage to identify whether either of the two allosemes is the default or elsewhere. The fact that *mediopassive* roots allow either alloseme to be inserted also serves to complicate the notion of an elsewhere alloseme.

(35) **Allosemes of Voice$_{[-N]}$ (*-a*)**

a. $[\![\ \text{Voice}_{[-N]}\ ]\!] \leftrightarrow \lambda e.\exists x.\textsc{agent}(x, e)$ / $\{\sqrt{\text{FAM}}, \sqrt{\text{NALH}}, \sqrt{\text{AWASH}}, \ldots\}$ _

b. $[\![\ \text{Voice}_{[-N]}\ ]\!] \leftrightarrow \emptyset$ / $\{\sqrt{\text{TIW}}, \sqrt{\text{AKAM}}, \sqrt{\text{AWASH}}, \ldots\}$ _

The alloseme in (35a) introduces and existentially binds an agent role—that is, it contributes an implicit agent.[22] With some roots, such as $\sqrt{\text{FAM}}$ 'whip' and $\sqrt{\text{NALH}}$ 'sting'/'shoot', Voice$_{[-N]}$ can *only* have this interpretation—these are the class of *lexical passive* non-active verbs. By contrast, the alloseme in (35b) is semantically expletive: it is simply an identity function, and does not contribute an implicit agent. With a further set of roots, such as $\sqrt{\text{TIW}}$ 'open' and $\sqrt{\text{AKAM}}$ 'close', Voice$_{[-N]}$ can only have this interpretation—

21. See Harley (2017) for some alternative views on how agentive semantics is distributed within the vP/VoiceP.

22. By existentially binding the agent role, it also prevents the role from being taken up by a by-phrase. This is a desirable result, as Choctaw lacks by-phrases.

these make up the class of *inchoative* non-active verbs. Finally, there is a (small) set of roots, such as $\sqrt{\text{AWASH}}$ 'fry', in the context of which Voice$_{[\text{-N}]}$ can take either the implicit-agent alloseme in (35a) or the expletive alloseme in (35b). These make up the class of *mediopassive* verbs. Recall from §3.1.2 that there was a further family of interpretations of non-actives, encompassing motion, body-action and reflexive verbs. For these, I propose that Voice$_{[\text{-N}]}$ introduces the implicit agent alloseme in (35a). But in the context of these roots, the usual disjoint-reference requirement is lifted and the implicit agent is inferred to be coreferential with the syntactically-projected theme argument. However, for various reasons this analysis cannot be the end of the story—they get a more complete discussion in §3.7.7.

What about the class of non-actives formed with Voice$_{[\ ]}$ (*-li*), e.g. *shalalli* 'slip' (29a)? Interestingly, it appears that non-actives formed with *-li* are only ever interpreted as inchoatives or statives (adjective-like). To my knowledge, no non-active verbs formed with *-li* have implicit agents. For this reason, we need only posit the Voice$_{[\ ]}$ allosemes in (36), and we need not posit an alloseme which introduces an implicit agent.

(36) **Allosemes of Voice$_{[\ ]}$ (*-li*)**

a. $[\![\ \text{Voice}_{[\ ]}\ ]\!] \leftrightarrow \emptyset\ /\ \{\sqrt{\text{SHALA}}, \sqrt{\text{ISKO}}, \sqrt{\text{TAKA}}, \ldots\}\ \_$

b. $[\![\ \text{Voice}_{[\ ]}\ ]\!] \leftrightarrow \lambda x.\lambda e.\textsc{agent}(x, e)$

With these allosemy rules, we can see how Voice$_{[\ ]}$ is forced, by interpretation, to either take or omit a specifier. If the root conditions Voice$_{[\ ]}$ to have the expletive alloseme in (36a), then the structure will only be able to semantically compose in the *absence* of a NP specifier.[23] If, on the other hand, the root does not condition the interpretation of Voice$_{[\ ]}$, it will have the agent-assigning alloseme in (36b) and the structure will be able to compose only if an NP is merged to saturate the open agent role. In the simplest structure, that NP would be merged in Spec-VoiceP, but see §3.4.4 for an analysis of 'extra effort' non-valency-increasing causatives in which the open agent role introduced by Voice$_{[\ ]}$ is saturated by an NP merged higher in the specifier of a *higher* Voice head.

The allosemes of the three Voice heads are listed in (37)—not all of these have been discussed yet, namely the causee-introducing allosemes of Voice$_{[\ ]}$ and Voice$_{[\text{+N}]}$ (see §3.8.2), and the expletive alloseme of Voice$_{[\text{+N}]}$ (see §3.5.8). I have also included the pluractional heads 'v$_{[\text{-Pl}]}$/v$_{[\text{+Pl}]}$ in the contexts for the allosemes of Voice$_{[\ ]}$—see §3.6.

23. A semantically-expletive specifier, as proposed by Wood (2015) and Schäfer (2017), would also in principle be able to merge as the specifier of a non-agentive Voice$_{[\ ]}$ head.

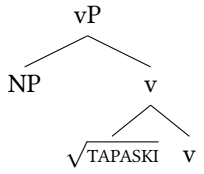
(37) **Allosemes of the Voice heads and their conditioning environments**

	Interpretation	Context	Function
$\text{Voice}_{[\text{-N}]}$	$\lambda e.\exists x.\textsc{agent}(x, e)$	$\{\sqrt{\text{FAM}}, \sqrt{\text{AWASH}}, \ldots\}$ _	lexical passives, mediopassives, reflexives
	Ø	$\{\sqrt{\text{TIW}}, \sqrt{\text{AWASH}}, \ldots\}$ _	inchoatives, statives, mediopassives
$\text{Voice}_{[\ ]}$	$\lambda x.\lambda e.\textsc{agent}(x, e)$	elsewhere	actives
	$\lambda x.\lambda e.\textsc{causee}(x, e)$	_ $\text{Voice}_{[\text{+N}]}$	introduces causee in syntactic causatives
	Ø	$\{\sqrt{\text{SHALA}}, \sqrt{\text{TAKA}}, \text{v}_{[\text{+Pl}]}, \ldots\}$ _	inchoatives, statives
$\text{Voice}_{[\text{+N}]}$	$\lambda x.\lambda e.\textsc{agent}(x, e)$	elsewhere	actives, syntactic causatives
	$\lambda x.\lambda e.\textsc{causee}(x, e)$	_ $\text{Voice}_{[\text{+N}]}$	introduces causee in syntactic causatives
	Ø	$\{\sqrt{\text{MǪMA}}, \ldots\}$ _	transitive quantifier verbs

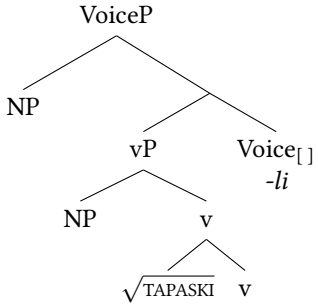
Thus far we have considered the interpretation of the three Voice heads, and derived the bulk of the morphology and interpretations of active and non-active verbs that were described in sections 3.1.1 and 3.1.2. However, we have left the *property-denoting* non-active verbs un-analyzed so far (these are the non-actives with stative, 'adjective-like' meanings). Recall that these verbs generally lack an *-a* or *-li* suffix, and generally form causatives with *-li*. I propose that they in fact have a distinct syntactic structure from the non-actives with *-a* and *-li* that we have seen thus far: they have no Voice projection at all. The structures for *tapaski* 'to be narrow' and *tapaski-li* 'to narrow (something)' are shown in (38).

(38) **Structures for alternating verbs formed from property-denoting root $\sqrt{\text{TAPASKI}}$**

a.



b.



As support for the structure in (38a), consider the alternative: vP is merged with a null allomorph of $\text{Voice}_{[\text{-N}]}$ or $\text{Voice}_{[\ ]}$. This head, in addition to being morphophonologically null, would have no syntactic function (since external arguments only show up when *-li* is appended, as in (38b)), and would have no possible interpretation. In support of this latter point, property-denoting non-actives are never interpreted with implicit agents, even when coerced into eventive interpretations (see §3.9.1). It thus seems safer to assume that there is no Voice head here, rather than one that is morphologically, semantically and syntactically undetectable—see Alexiadou et al. (2015) for similar argumentation against null, meaningless heads.

As a final note, it's worth acknowledging that the trivalent analysis of Voice does involve a fair bit of redundancy at the syntax-semantic mapping, compared with a bivalent analysis in which all non-active verbs are formed with one Voice head, and all active verbs are formed with another Voice head (e.g. Alexiadou et al. 2015, Spathas et al. 2015). Particular interpretations of Voice must, redundantly, be stated as

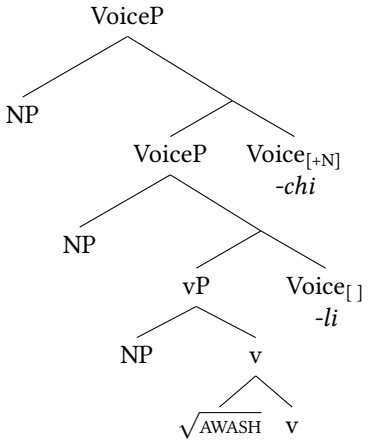
allosemes of multiple heads. The agent-assigning LF fragment in (36b), for instance, must be an alloseme of both Voice$_{[\ ]}$ and Voice$_{[+N]}$; similarly the 'expletive' interpretation of Voice in (36a) must be an alloseme of all three Voice heads. This redundancy would be reduced in a bivalent Voice system. So is this redundancy worth the conceptual gains from a trivalent system? I believe it is, because the alternative—a bivalent Voice system—would replace redundancy at interpretation with redundancy at morphological exponence. Rather than associating identical allosemes with multiple different heads, we would end up redundantly associating the same allo*morphs* with multiple different heads. The suffix *-li*, for instance, could no longer be stated as the exponent of a single head Voice$_{[\ ]}$—instead we would have to say that it is sometimes the exponent of Voice$_{[-N]}$, and sometimes the exponent of Voice$_{[+N]}$ (either that, or we would have to come up with a workaround in which *-li* is actually a different functional heads from the Voice heads, but just happens to alternate with them). I believe that it's probably better to have redundancy at the interface with semantics rather than the interface with morphology, just because there are *so* many more possible Vocabulary Items than there are possible LF fragments. *Any* legitimate phonological representation is a possible Vocabulary Item, while possible LF fragments are, we assume, pulled from a more limited set of non-root semantic primitives (perhaps further limited by the syntactic category they get inserted at), and are constrained by the requirement that they have to compose with their sister.

In the final part of the outline of the analysis, we turn to syntactic causatives.

3.2.3 Syntactic causativization: merging Voice$_{[+N]}$ with VoiceP

Unlike the formation of active and non-active verbs, the formation of syntactic causatives is fully predictable and fully productive. As discussed in the introduction to the chapter, syntactic causativization involves adding an extra argument to the clause, and a suffix *-chi* to the verb. I propose that it involves merging a Voice$_{[+N]}$ head (realized as *-chi*) with a root-conditioned VoiceP—that is, it involves 'stacking' Voice$_{[+N]}$ on top of another VoiceP (see Nie 2019 for discussion of this approach to causativization). So a causativized transitive like *awashli-chi-h* 'she made him fry it' will have the structure in (39).

(39) **Structure of causativized transitive verb *awashlichi* 'she made him fry it'**



The interpretation of a high Voice$_{[+N]}$ head (i.e. a Voice$_{[+N]}$ head that selects another VoiceP as its complement) is invariant: it introduces a (proto)-agent role. This is the default alloseme of Voice$_{[+N]}$, repeated in (40) (from (33b)).

(40) **Default alloseme of Voice$_{[+N]}$**

$[\![\text{Voice}_{[+N]}]\!] \leftrightarrow \lambda x.\lambda e.\textsc{agent}(x, e)$

Furthermore, the interpretation of the causativized VoiceP is not modified by causativization, except possibly to change the thematic role that is assigned to the specifier of the lower Voice head from 'agent' to 'causee'—see §3.8.2. In sections 3.5 and 3.8, this productive, semantically invariant and morphologically invariant use of Voice$_{[+N]}$ (*-chi*) is contrasted with the non-productive, morphologically and semantically-variable behavior of Voice$_{[+N]}$ when it is used to form active verbs, as in (29b). I attribute this difference to the low VoiceP being a *phase*—roots cannot condition morphological realization or semantic interpretation across phase boundaries.

Before moving on to the theoretical implications of the work in this chapter, I briefly comment on the clitic-doubling patterns characteristic of the causative alternation and syntactic causativization. Within a typical causative alternation, the agent argument is doubled by an ERG clitic, as in (41a), while the theme/internal argument is doubled by an ABS clitic, as in both (41a) and (41b).

(41) **Clitic-doubling pattern in the causative alternation**

a. Chi-bashli-li-tok-o̲?
2SG.ABS-cut.ACT-1SG.ERG-PST-Q
'Did I cut you?'

b. Sa-basha-h.
1SG.ABS-cut.NACT-TNS
'I was cut.' (Broadwell 2006:126)

This pattern is consistent with the analysis of Choctaw clitic-doubling presented in chapter 4 (see also Tyler 2019a), in which ERG clitics generally associate with arguments base-generated in Spec-VoiceP, thanks to a rule by which Voice assigns [ERG] to its specifier, and ABS clitics generally associate with arguments that lack an [ERG] diacritic.

With syntactic causatives, the new agent argument is always indexed by an ERG clitic. The old subject of the verb (the causee), if it was formerly indexed by an ERG clitic is now indexed by an ABS clitic, as in (42).

(42) **Syntactic causative: causee indexed by ABS clitic**

Jenny at sa talówachitok.
Jenny-at **sa**-taloowa-chi-tok
Jenny-NOM **1SG.ABS**-sing-CAUS-PST
'Jenny made me sing.' (A_01-29-18a_71)

In §3.8.2, I provide an analysis of this in terms of *contextually-conditioned* postsyntactic case-assignment rules—the lower Voice head is prevented from assigning [ERG] to its specifier as it normally would. Clitic-doubling in Choctaw is explored in more detail in chapters 4 and 5.

3.3 The theoretical stakes

I outline in §3.3.1 what I believe are the theory-neutral contributions to our understanding of verbs and argument structure in Choctaw. Then in §3.3.2 I situate the theoretical contributions of this chapter in a broader theoretical landscape. These contributions are, specifically, : the three-way classification of Voice heads, whereby a Voice head must, must not, or may, introduce an argument in its specifier, and the *contextual allosemy* account of the semantic contribution of those Voice heads.

3.3.1 Implications for the analysis of Choctaw verbs

Here I highlight three contributions of the chapter, which should be of interest to all Muskogeanists, including those who do not share the theoretical assumptions employed here. First, the active vs. non-active alternation has a number of morphological expressions, and the suffix *-li* in particular can be associated with both active and non-active alternants. Second, lexical and syntactic causatives may recycle the same functional element (the suffix *-chi*). Third, non-active verbs (those typically marked with the suffix *-a*) split into three semantic classes with respect to the presence or absence of an implicit agent. Furthermore, the semantic class of a non-active verb is, for the most part, orthogonal to the morphological marking used to indicate its active vs. non-active status.

Take the first point first, the traditional picture in Muskogean linguistics is that many verbs are organized into alternating pairs, where the transitive (here, *active*) alternant may be marked with the suffix *-li*, and the intransitive (here, *non-active*) alternant may be marked with the suffix *-a*, the infix *<l>*, or both (see the examples in (1)). In this chapter, I make the point that the suffix *-li* is in fact more multifunctional than this: it can mark not only an active alternant, but also a non-active alternant with certain verb roots whose active alternant is formed with *-chi*, and it is even found on some entirely non-alternating unaccusative verbs.

This finding feeds directly into my second point, which is that the suffix *-chi*, traditionally the productive causative suffix, can, in some circumstances, also do essentially the same job as the *-li* suffix found on active verbs (a.k.a. lexical causatives). In other words: the morpheme used to form syntactic causatives is recycled to form some lexical causatives. This proposal has a precedent, being very similar to analyses of Japanese causatives, where the morpheme *-(s)ase* shows up to form all syntactic causatives as well as certain lexical causatives (Miyagawa 1980, 1984, Harley 2008). It also raises problems for the strict firewall between fully-productive morphological processes (e.g. forming syntactic causatives) and more 'lexicalized' morphological processes (e.g. forming lexical causatives from certain roots), given that both kinds of operation traffic in the same morpheme.

The third point that may be of interest to Muskogeanists concerns the interpretation of the non-active forms, with respect to the presence or absence of an implicit agent. Various authors have commented that the non-active verbs can have inchoative-like interpretations (implicit agent absent) or passive-like interpretations (implicit agent present)—for instance Ulrich (1986:117) notes that "[t]he semantic relation between an [active] and the corresponding [non-active] is sometimes active/passive (like 'to cut' and 'to be cut'), and sometimes active/middle (like transitive and intransitive 'to open')", and Broadwell (2006:127) states that "[t]he Choctaw transitive-intransitive alternation applies to a different range of verbs than those which undergo the English causative alternation." Nonetheless, to my knowledge no authors have looked in any more detail at the status of implicit agents in Choctaw non-active verbs, and whether the presence or absence of an implicit agent is fixed by the verb root. As discussed in §3.1.2 I find that Choctaw non-actives can broadly be put into three categories with respect to the presence vs. absence of an implicit agent—those where the implicit agent is obligatory, those where it is impossible, and those where it is optional.

This chapter also serves to place Choctaw's active vs. non-active voice system inside a larger typology of similiar voice systems cross-linguistically. In §3.7 I explicitly lay out the similarities between the voice system of Choctaw and that found in Greek and Hebrew.

3.3.2 Implications for syntactic theory

I discuss in this section what I believe are the two main contributions of this chapter to syntactic theory, and where they fit into the current theoretical landscape. The first main contribution is cross-linguistic support for Kastner's (2016, 2020) 'trivalent' analysis of the typology of Voice heads. The second main contribution is that these Voice heads may have contextually-determined semantic and case-assignment properties, in addition to contextually-determined morphological forms.

Let's turn first to the trivalent analysis of Voice, by which a Voice head can have either a positive specifier requirement ('[+N]'), or a negative specifier requirement ('[-N]'), or no specifier requirement either way ('[ ]'). This analysis stands in contrast to a *bi*valent analysis of Voice heads, exemplified by Bruening (2013) and Alexiadou et al. (2015), among others, by which Voice heads are specified to either *have* or *lack* a specifier, but cannot be underspecified. The main empirical motivation for adding underspecified Voice to our typology is that it captures the existence of overt morphology that is in complementary distribution with voice morphology, but which is apparently underspecified with respect to the presence vs. absence of an external argument. In Hebrew, this underspecified morphology is the *XaYaZ* template, which is used to form both transitives and intransitives, and participates in various alternations. The table in (43), adapted from Kastner (2020:22), shows the flexibility of *XaYaZ*. With some roots (e.g. $\sqrt{\text{JBR}}$), *XaYaZ* forms a transitive verb, which alternates with an intransitive in the *niXYaZ* template. With other roots (e.g. $\sqrt{\text{NFL}}$), *XaYaZ* forms an intransitive, which alternates with a transitive in the *heXYiZ* template. These templates *niXYaZ*, *XaYaZ* and *heXYiZ* are associated with Voice$_{[\text{-D}]}$, Voice$_{[\ ]}$ and Voice$_{[\text{+D}]}$ heads respectively.[24]

(43) **Hebrew: forming the causative alternation with *niXYaZ*/*XaYaZ* and *XaYaZ*/*heXYiZ***

	niXYaZ (Voice$_{[\text{-D}]}$)	XaYaZ (Voice$_{[\ ]}$)	heXYiZ (Voice$_{[\text{+D}]}$)
$\sqrt{\text{JBR}}$	*niʃbar* 'was broken'	*ʃavar* 'broke' (tr.)	–
$\sqrt{\text{NFL}}$	–	*nafal* 'fell'	*hepil* 'dropped'

The trivalent system also accounts for those Hebrew roots whose causative alternation makes use of *niXYaZ* and *heXYiZ*, without employing *XaYaZ* at all, as in (44).

(44) **Hebrew: forming the causative alternation with *niXYaZ*/*heXYiZ***

	niXYaZ (Voice$_{[\text{-D}]}$)	XaYaZ (Voice$_{[\ ]}$)	heXYiZ (Voice$_{[\text{+D}]}$)
$\sqrt{\text{XLʃ}}$	*nexlaʃ* 'grew weak'	–	*hexliʃ* 'weakened' (tr.)

In this chapter, I argue that Choctaw *-a* (and its allomorphs), *-li* and *-chi* are essentially parallel to Hebrew *niXYaZ*, *XaYaZ* and *heXYiZ*, respectively. As shown in §3.2.1, three Choctaw roots that parallel Hebrew $\sqrt{\text{JBR}}$,

24. Kastner (2020) assumes nominals in Hebrew are headed by D, rather than N, hence his use of '[+/-D]' diacritics.

$\sqrt{\text{NFL}}$, and $\sqrt{\text{XLJ}}$ in terms of their Voice-combining abilities, are $\sqrt{\text{FAM}}$, $\sqrt{\text{SHALA}}$ and $\sqrt{\text{LHIPI}}$ respectively.

(45) **Choctaw: three ways of forming the causative alternation**

	-a (Voice$_{[\text{-N}]}$)	-li (Voice$_{[\ ]}$)	-chi (Voice$_{[\text{+N}]}$)
$\sqrt{\text{FAM}}$	*fam-a* 'was whipped'	*fam-mi* 'whipped'	–
$\sqrt{\text{SHALA}}$	–	*shalal-li* 'slipped/slid'	*shalaa-chi* 'dragged'
$\sqrt{\text{LHIPI}}$	*lhipiiy-a* 'overturned' (intr.)	–	*lhipii-chi* 'overturned' (tr.)

The benefits of the trivalent system go beyond capturing overt 'indeterminate' morphology like Hebrew *XaYaZ* and Choctaw *-li*. For one thing, the system permits lexical causatives to be formed from the same root in two different ways: by adding Voice$_{[\ ]}$, with a specifier, or by adding Voice$_{[\text{+D/N}]}$. Kastner (2020) argues that this is what is going on with the Hebrew root $\sqrt{\text{KTB}}$, which, as shown in (46), forms lexical causatives both with *XaYaZ* and *heXYiZ*, with each receiving a somewhat different interpretation:

(46) **Hebrew: verbs formed with *niXYaZ*/*XaYaZ*/*heXYiZ***

	niXYaZ (Voice$_{[\text{-D}]}$)	XaYaZ (Voice$_{[\ ]}$)	heXYiZ (Voice$_{[\text{+D}]}$)
$\sqrt{\text{KTB}}$	*nixtav* 'was written'	*katav* 'wrote'	*hextiv* 'dictated'

We see the same phenomenon in Choctaw, illustrated with the root $\sqrt{\text{APAKFO}}$ in (47).

(47) **Choctaw: verbs formed with *-a*/*-li*/*-chi***

	-a (Voice$_{[\text{-N}]}$)	-li (Voice$_{[\ ]}$)	-chi (Voice$_{[\text{+N}]}$)
$\sqrt{\text{APAKFO}}$	*apakfoow-a* 'was wrapped'	*apakfoh-li* 'wrapped/surrounded'	*apakfoo-chi* 'wrapped tightly'

See also §3.6 for discussion of the pluractional alternation, which brings out all three Voice heads on the same root.[25]

In addition to extending the empirical coverage of the trivalent model to an understudied voice system (see Oseki 2017 and Nie 2017a, 2020 for applications of the trivalent model to other languages), the present analysis of Choctaw proposed here also extends the trivalent analysis in two ways. Firstly, I integrate it with a Voice-stacking analysis of syntactic causatives, arguing that Voice$_{[\text{+N}]}$ (*-chi*) in Choctaw has the unique ability to select another Voice head as its complement, thus deriving a syntactic causative (see §3.8)—this is similar to Harley's (2008) analysis of syntactic causatives, though crucially different in terms of its implementation. I also integrate the trivalent Voice analysis with some components of the *layering* approach to argument structure, developed by Alexiadou et al. (2015), among others. They propose that it is possible

25. The trivalent system also allows for the possibility that some roots might form non-actives with both Voice$_{[\text{-D/N}]}$ and Voice$_{[\ ]}$, but Kastner (2020) notes that this is unattested in Hebrew. I don't know of any Choctaw roots with two non-active forms either, which may be significant.

to have an entirely Voice-less structure, where the extended projection of the root is capped by v—for them, this is the structure associated with unmarked anticausatives. I proposed in §3.2.2, *contra* the discussion in Kastner (2020:ch.6), that these Voiceless structures do exist, and have a place in a trivalent system—see §3.9 for further elaboration.

Let's turn now to the second main contribution of this chapter—that the Voice heads may have contextually-determined interpretations. The idea here is that the denotations of syntactic terminals, which are often assumed to be fixed, may in fact vary according to the syntactic and semantic environment of the terminal. In this way, semantic interpretation would be mediated by contextual *allosemy* in the same way that morphological realization is assumed, uncontroversially, to be mediated by contextual *allomorphy*. In this regard I follow work such as Marantz (2013a), Wood (2015), Myler (2016), Wood and Marantz (2017) and Kastner (2020).

Regarding the allosemes themselves, I show that Voice$_{[\text{-N}]}$ (*-a*) has at least two interpretations that are typical of non-active verbs cross-linguistically—inchoative and (lexical) passive (cf. Alexiadou and Doron 2012 on Greek and Hebrew). As discussed in §3.2.2, Voice$_{[\ ]}$ (*-li*) requires at least two allosemes too: one to assign an agent role to its specifier, and one expletive one. Finally, I show that Voice$_{[\text{+N}]}$ (*-chi*) *also* requires at least two allosemes: in addition to its default denotation, whereby it assigns an agent role to its specifier, it also has a kind of expletive interpretation, which appears with quantifier verbs. In addition, both Voice$_{[\ ]}$ (*-li*) and Voice$_{[\text{+N}]}$ (*-chi*) may also have an alloseme that assigns a 'causee' role to Spec-VoiceP, under syntactic causativization—see §3.8.2.

On a final note, this analysis of the Choctaw voice system showcases how, by combining allomorphy and allosemy, we can avoid an undesirable multiplication of functional heads, or a similarly-undesirable dicing-up of morphological, syntactic and semantic functions across multiple heads. Consider the ways in which non-actives are formed in Choctaw: setting aside those non-actives formed with *-li* or Ø (which I propose have different syntactic structures), there are at least three main morphological strategies: the suffix *-a*, the infix *<l>*, and both the suffix and the infix simultaneously. The table in (48) shows that each strategy can lead to lexical passive, inchoative and mediopassive interpretations (where mediopassive means that the verb may freely have either a passive or inchotive interpretation). I assume that the gap in the table is accidental.

(48) **Non-actives: every exponent can map to (almost) every interpretation**

	Lexical passive	Inchoative	Mediopassive
-a	*fam-a* 'was whipped'	*tiw-a* 'opened'	*lhakoof-a* 'escaped/was saved'
<l>	*ho<h>chifo* 'was named'	(gap)	*ho<n>ni* '(was) boiled'
<l> + *-a*	*a<lh>tok-a* 'was chosen'	*a<lh>kam-a* 'closed'	*a<l>wash-a* '(was) fried'

Consequently, if we assumed that a syntactic head can have only one interpretation, we would have a couple of options, both inelegant. One option would need to posit at least two distinct non-active heads—one that introduces an implicit agent and one that does not—and each of these heads would need to be morphologically expressible as *-a*, *<l>* and '*<l>*+*-a*'. An alternative option would be to split up the morphological and a semantic contributions of 'non-active' voice onto two different heads, both of which would be selected by the root. There would be multiple possible semantics-introducing heads, which would have no morphological realization, and likewise there would be multiple possible morphology-introducing heads, which would be semantically expletive.

Neither of these options is particularly good, to my mind. The first option introduces masses of redundancy, and the second option essentially abandons the idea that non-actives form any kind of uniform syntactic class. The whole picture gets even more complicated, and potentially involves even more redundancy, once we introduce the idea that Voice heads may also have contextually-determined case-assignment properties—see §3.8.2 and chapter 4. In this way, the Choctaw system showcases the merit of a system where the syntactic, morphological and semantic behavior of functional heads is contextually variable.

3.3.3 Chapter plan

The rest of this chapter is organized as follows. Each of sections 3.4 to 3.8 provides evidence for the empirical claims made in the outline (§3.1), and explores its consequences.

§3.4 provides evidence that underspecified Voice$_{[\,]}$ (*-li*) is syntactically versatile, able to introduce, or fail to introduce, an external argument in its specifier. In addition, I explore the possible syntactic structures of motion and body-action verbs formed with Voice$_{[\,]}$, and I consider a possible consequence of the *indirect* manner in which a root demands that Voice$_{[\,]}$ takes an external argument.

§3.5 provides evidence for the claim that Voice$_{[+N]}$ (*-chi*) has a life outside of forming syntactic causatives, and appears with some roots to form 'low' lexical causatives (as proposed in §3.2.3). I provide eight distinct arguments for this claim, and compare the analysis with the similar but not identical analysis of lexical causatives in Japanese proposed by Harley (2008).

§3.6 considers the class of change-of-state verbs in Choctaw which undergo the pluractional alternation. These verbs underscore the point that the *-li* suffix (exponing Voice$_{[\,]}$) really can be used in the formation of both actives and non-actives. They also show that the choice of Voice head used to form an active or non-active verb depends not only on the demands of the root, but also on the demands of the categorizing head v.

§3.7 turns to the third Voice head Voice$_{[-N]}$ (*-a*), and provides evidence for the classification of *-a*-formed

non-active verbs into three semantic classes—inchoative, lexical passive and mediopassive. I do this by developing two tests for the presence of an implicit agent, and two tests for the absence of one. I also provide an account of how some non-active verbs receive reflexive or body-action interpretations.

§3.8 advances the claim that syntactic causatives are formed by merging Voice$_{[+N]}$ (*-chi*) with a fully-built VoiceP. It explores how this changes the semantic and morphological behavior of the lower Voice head.

Finally, in the conclusion to the chapter, §3.9, I sum up the proposal so far, and make the case that certain property-denoting verbs may lack a Voice layer entirely. I also consider some unanswered questions regarding unmarked and non-alternating verbs.

3.4 The versatility of Voice$_{[\ ]}$ (*-li*)

In this chapter I propose that the suffix *-li* realizes a 'syntactically underspecified' Voice$_{[\ ]}$ head, underspecified in the sense that there is not syntactic requirement that it should have or not have a specifier. This claim helps capture a previously-unexplored fact about the distribution of *-li*: while it is most commonly used to form active, transitive verbs, it is *also* used to form a number of unergative and, most strikingly, unaccusative verbs.

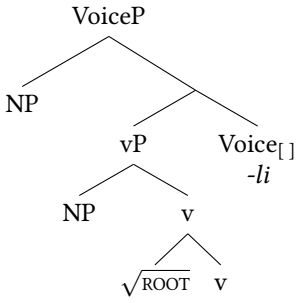
To illustrate, (49) shows some active, transitive verbs formed with *-li*. As shown, they may have non-active alternants (49a-c), but they need not (49d-e). This represents the most common use of *-li*.

(49) **Alternations where the active verb is formed with *-li***

a.	*tokaaf-a-h*	it exploded/fired
	*tokaf-**fi**-h*	she fired it
b.	*alhkam-a-h*	it closed
	*akam-**mi**-h*	she closed it
c.	*apissa*	it is straight
	*apissa-**li**-h*	she straightened it
d.	**hab-a-h*	
	*hab-**li**-h*	she kicked it
e.	**halaal-a-h*	
	*halal-**li**-h*	she pulled it

As outlined in §3.2.1, these have the structure in (50).

(50) **Structure of an active verb**



But *-li* is also used to form some intransitives, shown in (51-53).

(51) **Intransitives formed with *-li*: unergatives**

a.	*taklholaa-li-h*	she yelled
b.	*to̲ksa-li-h*	she worked
c.	*shohmalaa-li-h*	it shone

(52) **Intransitives formed with *-li*: unaccusatives**

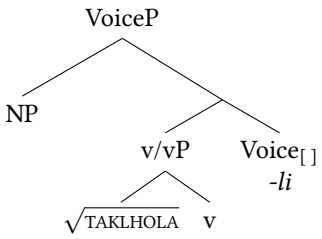
a.	*cha̲po-li-h*	it is sweet/tasty
b.	*kata̲-li-h*	is is tight
c.	*walhal-li-h*	it boiled

(53) **Intransitives formed with *-li*: intransitives that alternate with transitives**

a.	*shalal-li-h*	she slipped
b.	*takaa-li-h*	it hung
c.	*moshoo-li-h*	it went out

Some of these intransitives—those in (51) are good candidates based on their meaning—are unergative, and thus the Voice$_{[\ ]}$ head must be introducing a specifier just as in the transitive *-li* verbs. The structure of an unergative *-li* verb is shown in (54).

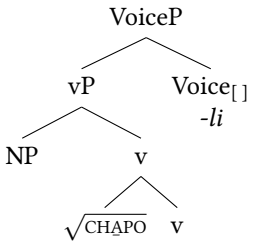
(54) **Structure of unergative verb formed with Voice$_{[\ ]}$ (*-li*)**



However, some other intransitives formed with *-li*—those in (52-53)—are unaccusative (and those in (53) alternate with transitives formed from the same root). As discussed in §3.2.1, I propose that these have the

structure in (55).

(55) **Structure of unaccusative verb formed with Voice$_{[\ ]}$ (*-li*)**



In this section, I first elucidate in more detail how the root *indirectly* forces underspecified Voice$_{[\ ]}$ to either take a specifier or not take a specifier (§3.4.1). In §3.4.2 I then briefly justify how I classify different intransitive *-li* verbs as unergative or unaccusative, using some diagnostics that are developed more fully in chapter 4. Following that, in §3.4.3 I discuss a hard-to-classify set of *-li* verbs, which have motion or body-action interpretations and are neither clearly unergative nor clearly unaccusative. Some examples are given in (56).

(56) **Motion verbs formed with *-li***

a.	*balaa-li-h*	she crawled
b.	*balii-li-h*	she ran
c.	*chanal-li-h*	it rolled

Finally, in §3.4.4 I derive an interesting phenomenon whereby a sequence of *-li* plus *-chi* does not lead to a syntactic causative interpretation, but leads instead to a kind of 'extra effort' interpretation (documented by Broadwell 2006:130). This is enabled by Voice$_{[\ ]}$'s ambivalence regarding whether a specifier is merged, combined with *delayed saturation* of the special causee role introduced by Voice$_{[\ ]}$, enabled by the semantic composition rule of *Predicate Conjunction* (cf. §1.3.5).

3.4.1 How roots can use allosemy to indirectly demand or reject a specifier for Voice$_{[\ ]}$

As discussed in §3.2.1, one way that a root can ensure that it is merged into a syntactic structure where Voice has a specifier, or one where Voice lacks a specifier, is through categorical selection of Voice$_{[+N]}$ or Voice$_{[-N]}$. A root like $\sqrt{\text{TIW}}$ 'open', for instance, can select for Voice$_{[-N]}$ (*-a*), and thus ensure that no external argument is merged in Spec-VoiceP. Similarly, a root like like $\sqrt{\text{SHALA}}$ 'slip'/'drag' can select for Voice$_{[+N]}$ (*-chi*), and thus ensure that an external argument *is* merged in Spec-VoiceP.

However, this kind of root-Voice selectional relationship will not be able to force the presence or absence

of a specifier in the event that the root selects for underspecified Voice$_{[\,]}$ (*-li*). For instance, categorical selection will not be able to prevent $\sqrt{\text{TIW}}$ 'open' from merging with Voice$_{[\,]}$ and forming a non-active (with nothing in Spec-VoiceP), nor will it be able to prevent $\sqrt{\text{SHALA}}$ 'slip'/'drag' from merging with Voice$_{[\,]}$ and forming an active (with a filled Spec-VoiceP). Some other mechanism is required.

Fortunately, the model of the syntax-semantics interface employed in this dissertation furnishes us with exactly the mechanism we require: contextual allosemy. As alluded to in §3.2.2, roots may condition the interpretation of their most local Voice head. Two allosemes of Voice$_{[\,]}$ (*-li*) were discussed: the root-conditioned 'Ø' or expletive interpretation in (57a), and elsewhere agentive interpretation in (57b).

(57) **Allosemes of Voice$_{[\,]}$ (*-li*)**

a. $[\![\ \text{Voice}_{[\,]}\ ]\!] \leftrightarrow \emptyset\ /\ \{\sqrt{\text{SHALA}}, \sqrt{\text{ISKO}}, \sqrt{\text{TAKA}}, \ldots\}\ \_$

b. $[\![\ \text{Voice}_{[\,]}\ ]\!] \leftrightarrow \lambda x.\lambda e.\textsc{agent}(x, e)$

If a root like $\sqrt{\text{SHALA}}$ merges with Voice$_{[\,]}$ (*-li*), Voice$_{[\,]}$ can only be interpreted as Ø, per (57a). This means that if an NP specifier is merged in Spec-VoiceP, it will not be assigned a role, and the structure will be unable to semantically compose. In this way, $\sqrt{\text{SHALA}}$ 'indirectly' bans Voice$_{[\,]}$ from taking a specifier. Conversely, if a root like $\sqrt{\text{FAM}}$ merges with Voice$_{[\,]}$, Voice$_{[\,]}$ can only have the agent-assigning interpretation, per (57b). If an NP is *not* merged in Spec-VoiceP, the open agent role will go unsaturated, which may leave the resulting structure unable to semantically compose. Thus $\sqrt{\text{FAM}}$ 'indirectly' forces Voice$_{[\,]}$ to take a specifier (though see §3.4.4 for an analysis in which Voice$_{[\,]}$ may introduce an agent role but not have it immediately saturated by its specifier).

We have thus seen that roots can exert both 'direct' influence over their surrounding syntactic structure, through categorical selection of particular functional heads, and 'indirect' influence, through conditioning functional heads to take on particular allosemes, which in turn narrow the range of possible, semantically-composable syntactic structures in which the root can appear.

At this point, the reader may be wondering if there are any roots with which Voice$_{[\,]}$ (*-li*) may freely take on *either* of the interpretations in (57), resulting in a *labile* alternation where an agentive external argument may be present or absent. There is nothing in the system that rules these out, and indeed we do find at least one root that behaves this way, and perhaps others, shown in (58).

(58) **Roots with a labile alternation**

a.	*chitoo-li-h*	it is loud
	chitoo-li-h	she turned it up (of a radio, TV, etc)
b.	*kat̲a-li-h*	it is tight
	%*kat̲a-li-h*[26]	she tightened it

26. All speakers accept *kat̲achi-h* as the active, transitive form of *kat̲ali-h* 'be tight'. The labile behavior of *kat̲ali-h* may be dialectal or

It is an interesting question why more roots don't show a labile alternation like this. For now, I set the issue aside, and in the next section I provide some empirical justification for classifying certain *-li* verbs as *truly* unaccusative.

3.4.2 Unaccusatives formed with *-li*

Thus far I have asserted without support that some intransitives formed with *-li* are unaccusative—i.e. their lone argument is an internal rather than external argument. Some such examples are given in (59), repeated from (52).

(59) **Unaccusatives with *-li***

a.	*cha̲po-li-h*	it is sweet/tasty
b.	*kata̲-li-h*	is is tight
c.	*walhal-li-h*	it boiled

Here, I briefly provide three arguments for the unaccusativity of these verbs, using a subset of the unaccusativity diagnostics that are fleshed out in chapter 4. They are: (i) that their subject survives the causative alternation, (ii) that their subject may be indexed with an ABS clitic, and (iii) that they are compatible with applied dative subjects.

The first argument that some intransitive *-li* verbs are unaccusatives is simply that they alternate with transitive, causative counterparts, with their lone subject argument becoming the object of the transitive. Some examples of this are given in (60), with (60b-d) repeated from (11).[27]

(60) **Intransitive *-li* verbs which alternate with transitive *-chi* verbs**

a.	*kata̲-li-h*	it is tight
	kata̲-chi-h	she tightened it
b.	*shalal-li-h*	he slipped
	shalaa-chi-h	she dragged him
c.	*iskoo-li-h*	it is short
	iskoo-chi-h	she shortened it
d.	*takaa-li-h*	it is hanging
	takaa-chi-h	she hung it up

The second argument for the unaccusativity of some *-li* verbs is that, when they take subject agreement, that agreement may be ABS, as shown in (61) (recall that ERG and ABS agreement are only overt in the 1st and 2nd-person).

---

idiolectal.

27. A traditional analysis of the transitive forms in (60) is that they are syntactic causatives of the intransitive forms, to which a rule of '*-li*-deletion' has applied. See §3.5.5 for a critical discussion of *-li*-deletion.

(61) **Some intransitive *-li* verbs take ABS subjects**

a. *Chi shálallitoko̲?*
chi-shaalalli-tok-o̲
2SG.ABS-slip-PST-Q
'Did you slip?' (B_10-16-19_21)

b. *Átóli a̲ttat sa tiballitok.*
aatóoli átta-t **sa**-tiballi-tok
game be.SG:NG-PTCP **1SG.ABS**-miss-PST
'I was at the ball game and I got left behind.' (D_04-15-19_75)

Thirdly, we can show that certain verbs in *-li* are unaccusative by showing that they are compatible with having *applied dative subjects* added to them. Some examples are given in (62)

(62) **Some intransitive *-li* verbs are compatible with applied dative subjects**

a. *John at bálokka i̲ kata̲lih.*
John-at baalokka i̲-kata̲li-h
John-NOM pants DAT-tight-TNS
'John's pants are tight.' (L_06-20-17_65)

b. *Hattak at aka̲koshi i̲ walhallitok.*
hattak-at aka̲koshi i̲-walhalli-tok
man-NOM egg DAT-boil-PST
'The man had the egg boiled.' (A_02-08-18_85)

The status of unaccusativity and its diagnostics is discussed in more detail in chapter 4 (§4.5), but for now these tests serve to illustrate the point that various intransitive *-li* verbs behave like unaccusatives and unlike unergatives. I now briefly mention a class of *-li* verbs that inhabit a place between clear unaccusatives and clear unergatives, and which have motion and body-action interpretations.

3.4.3 Motion and body-action verbs with Voice$_{[\ ]}$ (*-li*)

As discussed at the start of §3.4, some *-li*-marked intransitives have motion and body-action interpretations. Some examples are given in (63).[28]

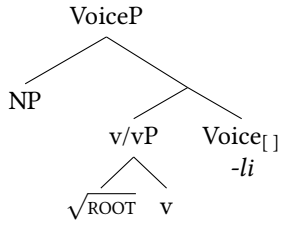
(63) **Motion and body-action verbs formed with *-li***

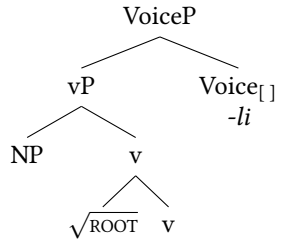
a. *balaa-li-h* she crawled
b. *balii-li-h* she ran
c. *chanal-li-h* it rolled
d. *yanal-li-h* it flowed
e. *binii-li-h* she sat down
f. *tolob-li-h* she jumped

28. Some body-action verbs like *biniilih* 'sit down' have result-state interpretations when in the n-grade, and exhibit clearly-unaccusative syntax and semantics—see §4.6.2.

In this section, I propose that motion and body-action verbs with *-li* may have unergative *or* unaccusative syntax—that is, the argument of these verbs may be merged in Spec-VoiceP or Spec-vP, as in the trees in (64).

(64) **Possible structures for motion/body-action verbs formed with Voice$_{[\ ]}$ (*-li*)**

a.


b.


The first thing to note is that some motion verbs in Choctaw wear their argument structure on their sleeve, being morphologically marked as unergative or unaccusative. There is a class of motion verbs whose dual forms end in *-chi*, the exponent of Voice$_{[+N]}$, as shown in (65) (the *itti-* prefix is generally used to form reciprocals, cf. Broadwell 2006:98).[29]

(65) **Motion verbs formed with *-chi***

a.	*iya-h*	she went
	*itt-iyaa-**chi**-h*	the two of them went
b.	*ona-h*	she arrived there
	*itt-onaa-**chi**-h*	the two of them arrived there
c.	*ala-h*	she arrived here
	*itt-alaa-**chi**-h*	the two of them arrived here

Similarly, there is a class of motion and body-action verbs that end in non-active *-a*, the exponent of Voice$_{[-N]}$, and alternate with an active *-li* form. Two such forms are shown in (66).

(66) **Motion/body-action verbs formed with *-a***

a.	*yilhib-li-h*	she ran them off
	yihiip-a-h	they ran off
b.	*filim-mi-h*	she flipped it
	filiim-a-h	it rolled over/**she turned her head**

These clearly-unergative and clearly-unaccusative motion/body-action verbs show that both kinds of analysis are, in principle, applicable for the *-li*-formed motion/body-action intransitives in (63). We cannot use the semantics of these verbs as a clue to their syntactic structure (at least, not at the level of semantic granularity that I am employing). As for which analysis is right, I believe the answer may be different for different verbs and different speakers. In chapter 4 I show that many motion verbs, including those

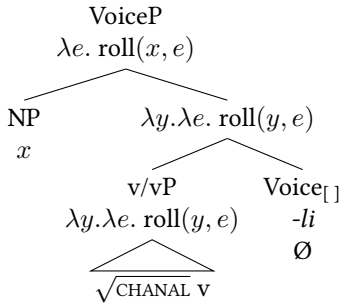
29. Strikingly, the motion verbs with *-chi* in (65) have 'directed motion' meanings that are often thought of as classically unaccusative.

formed with *-li*, exhibit 'mixed' unaccusative and unergative syntactic properties. And indeed, the syntactic status of motion verbs in modern Choctaw seems to be changing: older scholarship on Choctaw reports more unaccusative-like behavior for motion verbs, while the speakers I have consulted, in the late 2010s, uniformly treat them as unergatives, with only some vestigial unaccusative-like behavior (cf. §4.6.1).

As for how unergative and unaccusative structures underlying motion and body-action verbs get interpreted, there are a few possibilities. If their syntactic unergativity/unaccusativity matches the presence/absence of agentive semantics, then the interpretation will be fairly straightforward: a NP in Spec-VoiceP will get an agent role and an NP in Spec-vP will get a theme role. However, if the syntactic merge site of the argument is *mis*matched with the presence/absence of agentivity, then the semantics will have to work differently.

If the argument is merged in Spec-VoiceP but the verb lacks external-argument semantics (agent, causer, initiator or similar), then one possible analysis is for a Ø (identity function) alloseme to be inserted at Voice (cf. §3.2.2), allowing the theme role introduced by the root/v to be 'passed up' to the argument in Spec-VoiceP. This possibility is illustrated by the tree in (67), for *chanalli* 'roll' (cf. (63c)).[30]

(67) **Composition tree for motion verb with unergative syntax and unaccusative semantics**



Conversely, if the argument is merged in Spec-vP, the internal argument position, but the verb *does* have agentive semantics, we may get a different kind of interpretative setup. One possibility is that these verbs have essentially the same syntax-semantics mapping as those non-active verbs that get reflexive interpretations (§3.7.7): Voice introduces an existentially-bound agent role, which is forced by an implicature of the root to be coreferential with the syntactically-projected theme subject (cf. Spathas et al. 2015 on reflexive middle verbs in Greek). An alternative analysis is that the root/v may introduce a kind of agent role in a circumscribed set of environments, leaving Voice$_{[\,]}$ with nothing to do. Finally, it is also possible that the sense of 'agency' on the part of the subject of certain verbs is a product solely of our knowledge of the world, and is not encoded in the syntactic structure of these roots. I leave this issue open.

30. The denotation of the root/v is doubtless more complex than a simple predicate of events and individuals like 'roll(x, e)'—this simplification is for expository purposes only.

In the final part of this section, I discuss a curious phenomenon where the addition of the usual syntactic causative morpheme *-chi* fails to increase the valency of the verb, and instead alters the interpretation of the verb in a specific way. I argue that this is a result of the indirect, allosemy-mediated relationship between the root and the external argument in *-li* verbs.

3.4.4 Non-valency-increasing *-li* + *-chi*: delayed saturation of Voice$_{[\ ]}$'s agent role

Broadwell (1994, 1997c, 2006:130-134) documents and analyzes a phenomenon whereby the addition of a *-chi* suffix to a transitive verb does *not* causativize that verb, but instead has a non-valency-increasing semantic effect. Broadwell (2006:131) describes the effect as indicating "a more completely affected patient, or a greater effort on the part of the agent". Some examples are given in (68-70).

(68) **Non-valency-increasing *-chi***

a. John-at ashanni-tok.
John-NOM twist.ACT-PST
'John twisted it.' (Broadwell 2006:130)

b. John-at ashanni-**chi**-tok.
John-NOM twist.ACT-**CAUS**-PST
'John twisted it hard.'
'John twisted it with difficulty.'
'John twisted it and it broke.' (Broadwell 2006:131)

(69) **Non-valency-increasing *-chi***

a. *Kocha ápisa ma̲ tiwwih.*
kocha aapísa-m-a̲ tiwwi-h
outide window-DEM-OBL open.ACT-TNS
'She opened the window.' (D_10-13-18_87)

b. *A̲ bahta tiwwichitok.*
a̲-bahta tiwwi-**chi**-tok
1SG.DAT-bag open.ACT-**CAUS**-PST
'She opened up my bag (and made a mess of it).' (A_10-09-18, judgment)

(70) **Non-valency-increasing *-chi***

a. *Tana̲po tokaffilitok.*
tana̲po tokaffi-li-tok
gun fire.ACT-1SG.ERG-PST
'I fired the gun.' (A_04-03-19_92)

b. *Palammi ho̲ tokaffichílitok.*
palammi-h-o̲ tokaffi-**chii**-li-tok
struggle-TNS-DS fire.ACT-**CAUS**-1SG.ERG-PST
'I had a hard time making it fire.' (A_10-18-18_14)

Broadwell (1997c) remarks on an important generalizaton: non-valency-increasing *-chi* can *only* be added to transitive verbs that end in *-li*, with just a few exceptions. I take this generalization to be significant.[31]

I channel the analysis in Broadwell (1997c), though I implement it slightly differently. I propose that in these 'extra effort' causatives, the subject NP assumes both the agent *and* causee thematic roles, which are typically distributed across the two highest NPs in a syntactic causative. The agent role is introduced in the higher Spec-VoiceP and makes its way to the NP in Spec-VoiceP as usual. But although the lower Voice$_{[\ ]}$ head introduces an unsaturated causee role like it ordinarily would in a syntactic causative, this role is *not* saturated by an argument in the specifier of this Voice head, but rather the role is 'passed up' to the next syntactic argument. The NP in the specifier of the higher Voice head thus receives two thematic roles, from the lower and higher Voice heads. The semantic composition rule of *Predicate Conjunction* is crucial for letting this happen.

Let's first address how becoming both an agent and a causee of the same event might lead to the kinds of interpretations we see in (68-70). The effect arises because there is a kind of clash between the properties of a *causee* and the properties of an *agent*—specifically, causees do not volitionally execute the event that they cause (see §3.8.2 for further evidence and discussion). The only way that a single argument can be understood as both an agent (who may have volition) and a causee (who cannot have volition) is if we understand there to be some 'distance' between an argument's intentions and their actions, and they are conceptualized as not being fully in sync. That understood clash between an individual's intentions and their execution of the event is what causes the 'extra effort' and 'extra affectedness' interpretations.

On a mechanical level, I pursue an analysis which exploits the syntactic underspecification of Voice$_{[\ ]}$ (*-li*), and the *indirect* influence the root has over whether or not Voice$_{[\ ]}$ takes a specifier (cf. §3.4.1). The two syntactic structures that can be associated with the verb stem *tiwwichi* (as in (69b)) are given in (71).

---

31. A non-valency-increasing *-chi* can, on occasion, be added to a lexical causative that ends in *-chi*, yielding a *-chi-chi* sequence. Some examples are given in (i).

(i) **Non-valency-increasing *-chi* added to a lexical causative formed with *-chi***

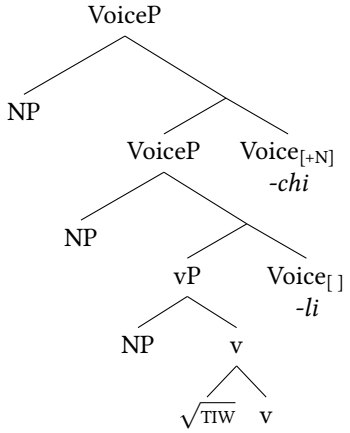
a. *Talówachíchilish hilháchilitok.*
taloowa-chíi-chi-lii-sh hilhaa-chi-li-tok
sing-CAUS-CAUS-1SG.ERG-PTCP dance-CAUS-1SG.ERG-PST
'I made him sing and dance.' (A_10-16-18_6)

b. *Baláchichílitok.*
balaa-chi-chii-li-tok
crawl-CAUS-CAUS-1SG.ERG-PST
'I made him crawl.' (A_10-25-18_19)

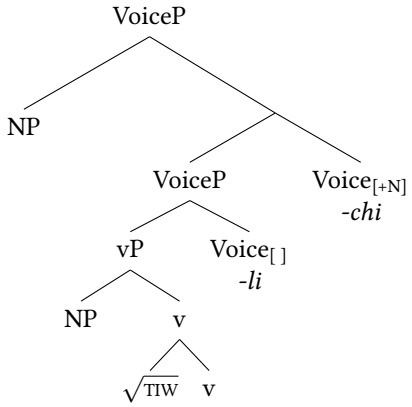
I do not have an account of these forms, since the analysis outlined in this section could not be applied here. One possibility is that they are an instance of so-called 'causative doubling', involving the semantically-vacuous repetition of the causative morpheme in order to pragmatically alter the interpretation of the causation event (for example, by making it more indirect). See Key (2013:ch.6) for discussion of this phenomenon. See Broadwell (1997c) for a more extensive discussion of double causative-marking in Choctaw (though the variety he documents appears to allow double causatives more liberally than the variety I describe here).

(71) **Possible structures for *tiw-wi-chi-h***

a. Syntactic causative: 'she made him open it'



b. Non-valency-increasing causative: 'he opened it up (and made a mess)'



The structure in (71a) is a typical syntactic causative of a transitive verb that is headed by Voice$_{[\ ]}$ (see §3.8). In the structure in (71b), by contrast, Voice$_{[\ ]}$ does *not* introduce a specifier, and only Voice$_{[+N]}$ takes a specifier.

How can Voice$_{[\ ]}$ get away with failing to introduce a specifier in (71b)? The basic idea is that the unsaturated role introduced by Voice$_{[\ ]}$, in the context of a root like $\sqrt{\text{TIW}}$, need not be immediately satisfied in Spec-Voice$_{[\ ]}$P, but instead can be saturated by an NP merged higher in the structure. This is only possible, of course, when there *is* a higher NP at all.

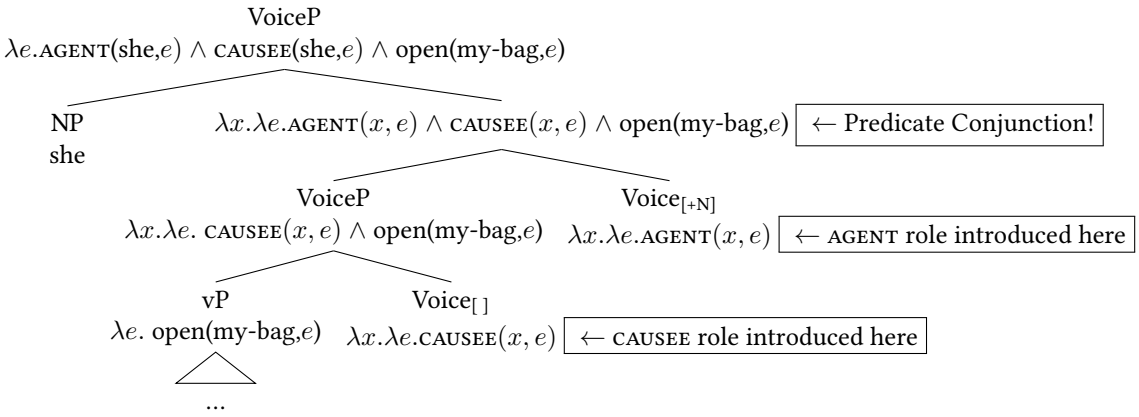
The semantic composition of the relevant fragment of the tree in (71b) is shown in (72).[32] In the presence of a higher Voice$_{[+N]}$ head, Voice$_{[\ ]}$ is conditioned to introduce an unsaturated *causee* role rather than an agent role (see §3.8.2).[33] Then, this role remains unsaturated when the next Voice head is merged, and

32. In order for the analysis to work, it is crucial either that the lower Voice head introduces a role that is different from the role introduced by the higher head, *or* that the two 'agent' roles are predicated of different events (e.g. a causing event vs. a caused event). I have opted for the former option, but this was a fairly arbitrary choice.

33. For the analysis to work, the rule that inserts an open causee role at Voice in the presence of a higher Voice head overrides the rule that inserts an agent role in the presence of certain roots. I have yet to explore the consequences of this.

the denotations of the higher Voice$_{[+N]}$ head and the lower Voice$_{[\ ]}$P combine via *Predicate Conjunction* (mentioned but not explored in §1.3.5). The NP merged in Spec-Voice$_{[+N]}$P ('she') ends up receiving both the agent role, from Voice$_{[+N]}$, and the causee role, from Voice$_{[\ ]}$.

(72) **Composition tree for non-valency-increasing causative**



In §3.8.2 I discuss in more detail the nature of the causee role in Choctaw syntactic causatives.

3.4.5 Section summary

In this section, we have seen that Voice$_{[\ ]}$, generally exponed as *-li*, can be used not only to form the transitive alternants of intransitive verbs ending in *-a*, as is its function in traditional descriptions, but is also used in forming non-alternating transitives, unergatives and unaccusatives. I have argued that roots can indirectly determine whether or not Voice$_{[\ ]}$ takes a specifier through conditioning different allosemes of Voice$_{[\ ]}$, and I have further argued that this 'indirect' requirement for a specifier is sometimes manipulated—the result is non-valency-increasing causatives, built by stacking Voice$_{[+N]}$ (*-chi*) on top of a specifierless, causee-assigning Voice$_{[\ ]}$ (*-li*).

In the next section, I provide empirical support for another major claim of this chapter: that Voice$_{[+N]}$ (*-chi*) may be used to form not only syntactic causatives, but some lexical causatives too.

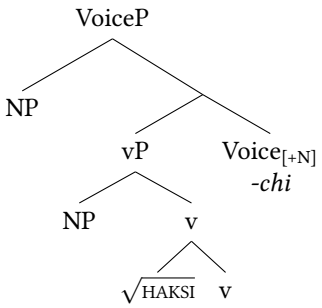
3.5 Voice$_{[+N]}$ (*-chi*) in lexical causatives

I this section I develop and support one part of the analysis outlined in §3.2: that Voice$_{[+N]}$ is used not only to form syntactic causatives, but also to form some lexical causatives. Some examples are given in (73), with a representative syntactic structure in (74).

(73) **Lexical causatives formed with *-chi***

a.	*haksi-chi-h*	she tricked him
b.	*haloppa-chi-h*	she sharpened it
c.	*shalaa-chi-h*	she dragged it

(74) **Structure of lexical causative *haksi-chi-h* 'she tricked him'**



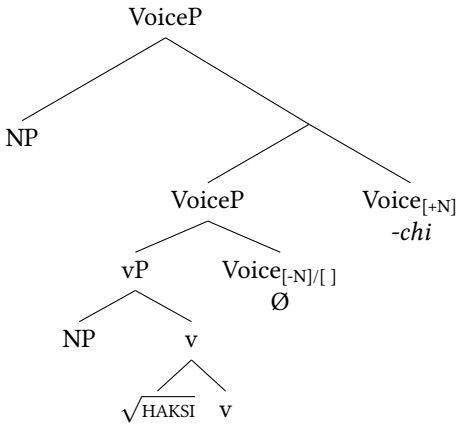
On a mechanical level, the analysis of these forms is fairly simple: roots like $\sqrt{\text{HAKSI}}$ can select for Voice$_{[+N]}$, which obligatorily takes a specifier. Roots like $\sqrt{\text{HAKSI}}$ do not condition any special alloseme on Voice$_{[+N]}$, and so the alloseme that gets inserted is the default, agentive one in (75) (repeated from (33b)).

(75) $[\![\text{Voice}_{[+N]}]\!] \leftrightarrow \lambda x.\lambda e.\textsc{agent}(x, e)$

That is not to say that roots never condition allosemy of Voice$_{[+N]}$—see §3.5.8 for discussion of the interpretation of *-chi* on transitive quantifier verbs.

The bulk of this section is dedicated to showing that the lexical causative structure in (74) really is the right one for many verbs that end in *-chi*. So how, empirically, do we tell the difference between a *lexical* causative structure like (74) and a potential *syntactic* causative structure like (76)?

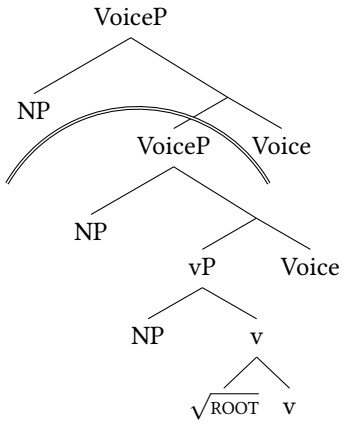
(76) **Potential structure for *haksi-chi-h* 'she tricked him' (to be rejected)**



Much of the reasoning in this section will rely on the idea that there is some kind of a privileged re-

lationship between the root and its closest Voice head. The root can select for its closest Voice head (one or more of $\text{Voice}_{[\text{-N}]}$, $\text{Voice}_{[\text{+N}]}$ and $\text{Voice}_{[\ ]}$) and exclude others, but can make no demands about functional structure merged above this head, including whether or not a higher $\text{Voice}_{[\text{+N}]}$ is merged, resulting in a syntactic causative. Furthermore, the root can condition the interpretation of its closest Voice head (via allosemy), but not that of a more distance Voice head, and likewise the closest Voice head can condition the interpretation of the root, but a more distant Voice head cannot. Similarly, the root and closest Voice head can condition each other's morphological realization, but this is not possible between a root and a more distant Voice head. In §3.2.3, following work by Harley (2008) (who herself builds on work by Miyagawa 1980, 1984, Marantz 2007, and others), I linked the privileged relationship between the root and its closest Voice head to their being in the same *phase*, with the lowest Voice head functioning as a phase head. This division between a low and a high Voice head in a syntactic causative is schematized in (77).

(77) **Structure of syntactic causative showing phase boundary**



Any functional structure merged above the lower Voice head, including the higher Voice head, falls outside the phase containing the root, and so cannot participate in selection, contextual allomorphy, or contextual allosemy.

The arguments presented for the existence of lexical causatives, where $\text{Voice}_{[\text{+N}]}$ (*-chi*) takes a vP complement, are as follows:

(78) **Evidence for lexical causatives**

a. Lexical causatives formed with *-chi* are different from causativized non-actives (§3.5.1).
b. Lexical causatives with *-chi* do not necessarily entail the causativized predicate (§3.5.2).
c. There are unergatives formed with *-chi* (§3.5.3).
d. There are transitives formed with a bound root plus *-chi* (§3.5.4).
e. *-Chi* can replace *-li* with some roots (§3.5.5).
f. Some *-chi* verbs may themselves undergo syntactic causativization (§3.5.6)

g. *-Chi* can condition an idiosyncratic interpretation of the root (§3.5.7).

h. Roots (specifically quantifier roots) can condition an idiosyncratic non-agentive interpretation of *-chi* (§3.5.8).

Following this, I summarize the arguments in favor of lexical causatives with *-chi* in §3.5.9. Finally in §3.5.10 I compare the analysis presented here with Harley's (2008) influential analysis of Japanese causatives, based on Miyagawa (1980, 1984).

3.5.1 Lexical causatives are different from causativized non-actives

Lexical causatives, formed by merging Voice$_{[\ ]}$ (*-li*) or Voice$_{[+N]}$ (*-chi*) directly with vP, have a different interpretation from causativized non-active verbs, which are formed by merging Voice$_{[+N]}$ (*-chi*) with a VoiceP headed by Voice$_{[-N]}$ (*-a*). The basic difference is that syntactic causatives of non-actives involve a less direct kind of causation than lexical causatives, although this is modulated by context. We can show that many transitive verbs ending in *-chi* have a direct causation interpretation characteristic of lexical causatives, meaning they are unlikely to be syntactic causatives of non-actives.

Let's first consider the interpretation of causativized non-actives. We know that the (a) examples in (79-80) are causativized non-actives because it is possible to identify exponents of the non-active head *-a* and the higher causative head *-chi*. We can then contrast them with their lexical causative counterparts in the (b) examples.

The 'indirect' nature of the causation is most obvious when the causativized non-active verb introduces an implicit agent (on which see §3.7), because the implicit agent survives the addition of the causer argument. The sentences in (79a) and (80a) show syntactic causatives of verbs with an implicit agent.[34] They clearly contrast with their lexical causative counterparts in (79b) and (80b), which do *not* have an implicit agent.

(79) **Syntactic causative of non-active verb with implicit agent ≠ lexical causative**

a. *Hattak mat sa bówachitok.*
hattak-m-at sa-boow-a-chi-tok
man-DEM-NOM 1SG.ABS-$\sqrt{\text{BEAT}}$-NACT-CAUS-PST
'Because of that man, I got beaten up.' (lit. 'That man made me be beaten up.') (A_10-08-18_62)

b. *Ish booliha?*
ish-boo-li-ha
2SG.ERG-$\sqrt{\text{BEAT}}$-ACT-PST.Q
'Did you hit him?' (F_10-17-18_56)

34. Note that these examples come from a single speaker. Some speakers find them to be quite weird.

(80) **Syntactic causative of non-active verb with implicit agent ≠ lexical causative**

a. *Famáchilitok.*
fam-aa-chi-li-tok
$\sqrt{\text{WHIP}}$-NACT-CAUS-1SG.ERG-TNS
'Because of her, he got whipped.' (lit. 'She made him be whipped.') (A_10-10-18_16)

b. *Ish fammih̲a̲?*
ish-fam-mi-h̲a̲
2SG.ERG-$\sqrt{\text{WHIP}}$-ACT-PST.Q
'Did you whip him?' (F_10-17-18_58)

But even when the non-active verb that undergoes syntactic causativization does *not* introduce an implicit agent, the resulting syntactic causative still encodes a distinct, more indirect kind of causation than lexical causatives. This is demonstrated by the causativized non-actives in (81), which are compared with their lexical causative counterparts directly below.

(81) **Syntactic causative of non-active verb without implicit agent ≠ lexical causative**

a. *Yoshóbachih.*
yoshoob-a-chi-h
$\sqrt{\text{LOSE}}$-NACT-CAUS-TNS
'Because of her, he got lost.' (lit. 'She made him become lost.') (A_10-08-18, judgment)
cf. *yoshoblih* 'she led him astray'

b. *Chi alwasháchilitok.*
chi-alwash-aa-chi-li-tok
2SG.ABS-$\sqrt{\text{FRY}}$-NACT-CAUS-1SG.ERG-PST
'I made you fry.' (e.g. by accidentally leaving you out in the sun) (A_10-08-18_53)
cf. *awashlih* 'she fried it'

See Miyagawa (1980, 1984) for discussion of similar effects when Japanese unaccusative verbs undergo syntactic causativization.

Crucially, many transitive verbs formed by suffixing *-chi* directly onto the root (and removing any other voice morphology)—that is, the verb forms we are concerned with in this section—have direct causation interpretations like the clear lexical causatives above. They are not forced to take indirect causation interpretations like the verbs in (79), (80a) and (81). Some examples are given in (82).

(82) **Transitives formed with *-chi* can encode direct causation**

a. *T̲o̲shpat bashpo haloppachih!*
t̲ó̲shpa-t bashpo haloppa-chi-h
quick-PTCP knife $\sqrt{\text{SHARP}}$-CAUS-TNS
'Hurry up and sharpen the knife!' (A_01-30-18_126)

b. *T̲o̲shpat palah m̲a̲ moshóchih!*
t̲ó̲shpa-t palah-m-a̲ moshoo-chi-h
quick-PTCP light-DEM-OBL $\sqrt{\text{DOUSE}}$-CAUS-TNS
'Hurry up and turn those lights off!' (C_01-31-18_51)

This constitutes evidence that *-chi* can be used to form lexical causatives *as well as* syntactic causatives. The next section discusses another, specific kind of interpretative difference between lexical and syntactic causatives. And as predicted, some *-chi* verbs pattern like lexical causatives

3.5.2 Lexical causatives with *-chi* do not necessarily entail the causativized predicate

Consider the following distinction in English, between single-word lexical causatives (e.g. 'sharpen') and analytic causatives, formed with *make* + adjective (e.g. 'make it sharp'). The lexical causatives in (83) do not entail their adjectival counterparts, as shown by the fact that the resulting state may be negated in the same sentence without creating a contradiction. The analytic causatives in (84), by contrast, *do* entail the adjective they contain, as shown by the fact that negating the adjective results in a contradiction (see Borer 1991 for in-depth discussion of the relationship between adjectives and the causative verbs derived from them).

(83) **English: lexical causatives do not entail adjectival counterpart**
   a. I sharpened the knife but it still isn't sharp.
   b. I straightened it but it still isn't straight.

(84) **English: analytic causatives *do* entail adjectival counterpart**
   a. #I made the knife sharp but it still isn't sharp.
   b. #I made it straight but it still isn't straight.

Indeed, it seems like the complement of *make* in an analytic causative is always entailed (not just those causatives with adjectival complements), as shown by (85).[35]

(85) #I made her sing but she still hasn't sung.

Though the entailment is not bidirectional: some deadjectival causatives do still entail the adjective they contain, as shown in (86).

(86) #I opened it but it still isn't open.

In Choctaw, just as in English, syntactic causatives entail their un-causativized counterpart. In (87), negating the un-causativized part of a syntactic causative leads to a contradiction.

35. Note that 'permission' causatives, such as English *let*-causatives, pattern differently ('I let him sing but he still hasn't sung') and are excluded from this discussion. Permission causatives in Choctaw have a different syntax from the 'psychological coercion' or 'physical manipulation' causatives discussed here.

(87) **Syntactic causatives entail the causativized predicate**

#Taloowa-chii-li-to-kak-o̲ ik-talóow-o-k-i̲sha-h.
sing-CAUS-1SG.ERG-PST-although-DS IRR-sing:LG-NEG-NEG-yet-TNS
'I made her sing but she hasn't sung yet.' (A_10-18-19b, judgment)

And just as in English, lexical causatives (actives) do *not* necessarily entail their unaccusative/non-active counterparts (though some do):

(88) **Active verbs formed with *-li* do not necessarily entail their non-active counterpart**

Apissa-lii-li-to-kak-o̲ apissa-kiyo-h.
straight-ACT-1SG.ERG-PST-although-DS straight-not-TNS
'I straightened it but it isn't straight.' (B_10-15-19a, judgment)

I propose that we can leverage this distinction as a one-way diagnostic for lexical causatives. If a verb which ends in *-chi fails* to entail its *-chi*-less, non-active counterpart, it must be a lexical causative. And indeed, there are transitive verbs formed with *-chi* that do not entail their *-chi*-less counterpart:

(89) **Some verbs formed with *-chi* do not entail their *-chi*-less counterpart**

a. **Haloppa-chii**-li-tok, hi-kak-o̲ **haloppa**-kiyo-h.
sharp-CAUS-1SG.ERG-PST LV-although-DS **sharp**-not-TNS
'I sharpened it but it's not sharp.' (B_10-15-19a, judgment)

b. Nípi **nonaa-chi**-li-tok, hi-kak-o̲ **nona**-kiyo-h.
meat **cooked-CAUS**-1SG.ERG-PST LV-although-DS **cooked**-not-TNS
'I cooked the meat but it isn't cooked (through).' (A_10-18-19b, judgment)

If I am correct that the property of failing to entail a stative counterpart means that a particular transitive verb is a lexical causative, then the examples in (89) show that Choctaw *does* have some lexical causatives formed with *-chi*.[36, 37]

3.5.3 Unergatives with *-chi*

One simple argument that Voice$_{[+N]}$ (*-chi*) can merge directly with vP is that *-chi* is used to form a class of unergatives. A sample is provided in (90).

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36. This test leads to some interesting findings. For instance, just as in English, transitive 'ring' does not entail its intransitive counterpart:

(i) *Bell oláchilikako̲ ik ólotok.*
bell olaa-chi-li-kak-o̲ ik-óol-o-tok
bell ring-CAUS-1SG.ERG-although-DS IRR-ring:LG-NEG-PST
'I rang the bell but it didn't ring.' (A_10-18-19b_12)

This implies that *olaachi* 'ring.CAUS' is a lexical causative. But at the same time, we would expect its intransitive counterpart *ola*, being a (sound) emission verb, to be unergative. I do not explore the consequences of this finding here.

37. I do not address here the question of *why* some lexical causatives fail to entail their non-active counterparts. Generally, the entailment fails to hold with degree achievements (cf. (86)), but to discuss these issues would take us too far afield for the purposes of this chapter—see Borer (1991).

(90) **Unergatives formed with *-chi***

a.	*shiniika-chi-h*	it made a racket/buzzed
b.	*chamaaka-chi-h*	it rang
c.	*shachaaka-chi-h*	it made a rustling noise

These roots are bound and require *-chi*—they have no 'non-active' equivalent—making them unlikely to be syntactic causatives.

It is remarkable that unergative verbs formed with *-chi* are primarily (or all) sound emission verbs—see Rappaport Hovav and Levin (2000) for an unergative analysis of emission verbs. It is also notable that they all appear to contain a suffix *-ka*—Aaron Broadwell (p.c.) suggests that these forms in fact contain *achi* 'say' (or archaic *kachih* 'say'), rather than the causative morpheme. Further investigation of required.[38]

3.5.4 Bound transitive roots with *-chi*

The roots of unergative verbs formed with *-chi*, discussed in the previous subsection, are bound roots in the sense that they can only appear with *-chi*. However, unergatives are *a priori* ruled out from having non-active counterparts owing to the fact that they lack an internal argument. But in addition to unergatives formed from *-chi* plus a bound root, Choctaw also has some *transitive* verbs that are formed with *-chi*, but which lack a non-active, intransitive counterpart. Some examples are given in (91).

(91) **Transitive verbs that require *-chi***

a.	**im-aaba-h* *im-aaba-chi-h*	she taught him
b.	**ataapa-h* *ataapa-chi-h*	she stopped it
c.	**wina-h* *winaa-chi-h*	she shook it
d.	**chaffi-h* *chaffi-chi-h*	she sent him (somewhere)
e.	**ahoo-h* *ahoo-chi-h*	she found it

The fact that these verbs lack *-chi*-less counterparts can be taken as evidence that they are lexical rather than syntactic causatives. This follows from the assumptions stated in the introduction to this section (§3.5), that roots can only make demands on their surrounding functional structure up to the most local Voice head: a root cannot elect to appear only in a syntactic causative structure.[39]

38. Other intransitive verbs ending in *-chi* that are likely unergatives include the dual forms of certain motion verbs, e.g. *ittiyaachih* 'the two of them went', *ittalaachih* 'the two of them came here' (see §3.4.3), *basaachih* 'snap one's fingers', and perhaps some others.

39. A caveat is in order for both the non-alternating *-chi* transitives discussed in §3.5.4 and the non-alternating unergatives discussed in §3.5.3. Because they don't morphologically alternate, there is no way of being certain that *-chi* is not simply part of the root, with

3.5.5 *-Chi* can replace *-li*

A simple argument that Voice$_{[+N]}$ (*-chi*) can merge directly with the vP containing the root is that some roots may appear with either *-li* or *-chi*. Some examples are given in (92) (repeated from (11)).

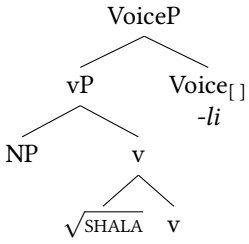
(92) **Roots with a *-li*/*-chi* alternation**

a.	*shalal-li-h*	he slipped
	shalaa-chi-h	she dragged him
b.	*iskoo-li-h*	it is short
	iskoo-chi-h	she shortened it
c.	*takaa-li-h*	it is hanging
	takaa-chi-h	she hung it up
d.	*moshoo-li-h*	it went out (of a light)
	moshoo-chi-h	she turned it off

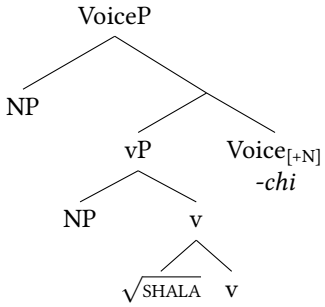
The syntactic structures associated with the pairs in (92) are given in (93) (repeated from (29)).

(93) **Structures for alternating verbs formed with *-li*/*-chi***

a.



b.



The complementarity between *-li*/*-chi* extends beyond the causative alternation. There are also a small number of roots which form transitives in two ways, using *-li* and *-chi*. The two transitives may have subtly different interpretations, as in (94), or they may be in free variation (95).[40]

(94) **Roots which form two transitives with different meanings**

a.	*apissa-h*	it is straight
	apissa-li-h	she straightened it
	apissa-chi-h	she is focused on it

the Voice head being null (on the necessity of null Voice heads in Choctaw, see §3.9.1). However, it is definitely suggestive that there are more non-alternating transitive and unergative verbs ending in the string <*chi*> than there are unaccusative or non-active verbs ending in <*chi*>. The only good candidate, that I am aware of, for an unaccusative or non-active verb that ends in *-chi* is *wannichih* 'tremble'. In support of its non-active status, its subject is indexed with an ABS clitic (see §3.2.3).

40. Miyagawa (1980, 1984) discusses equivalent sets of verbs to (95) in Japanese, and finds that, if a verb has a standard way of forming a transitive that does not involve the syntactic causative morpheme *-(s)ase*, then applying *-(s)ase* to the intransitive form of the verb will yield an indirect causative interpretation, typical of syntactic causatives. However, the *-(s)ase* forms, like the Choctaw *-chi* forms, are not rejected by speakers. Thanks to Yohei Oseki (p.c.) for discussion of this point.

b.	*chito-h*	it is big
	chitoo-li-h[41]	she made it louder
	chitoo-chi-h	she made it big(ger)
c.	*apakfoow-a-h*	it is wrapped
	apakfoh-li-h	she wrapped it (with sth.)/they surrounded it
	apakfoo-chi-h	she wrapped it tightly (with sth.)

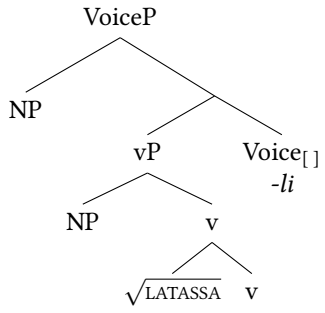
(95) **Roots which form two transitives with the same meaning**

a.	*latassa-h*	it is flat
	latassa-li-h	she flattened it
	latassa-chi-h	she flattened it
b.	*awaata-h*	it is wide
	awaata-li-h	she widened it
	awaata-chi-h	she widened it
c.	*kapassa-h*	it is cold
	kapassa-li-h	she cooled it
	kapassa-chi-h	she cooled it

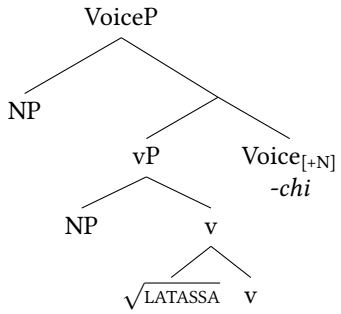
The syntactic structures for these transitive-transitive pairs are given in (96).

(96) **Structures for transitive verbs formed from root $\sqrt{\text{LATASSA}}$**

a.



b.



Before moving on, it is necessary to address an alternative analysis of some *-li*/*-chi* alternations, discussed for Choctaw by Nicklas (1974:258), Ulrich (1986:270-276) and Broadwell (2006:130), among others. The idea is that *-li* is not actually alternating with *-chi*: instead, a morphophonological rule allows *-li* to op-

41. *Chitoolih* is one of a very small number of *-li* verbs which can be used both transitively and intransitively. Its two uses are contrasted in (i).

(i) ***Chitoo-li-h* is both intransitive and transitive**

a. *Radio at chitóli kat átapah.*
radio-at **chitooli**-k-at aatapa-h
radio-NOM loud-COMP-SS too.much-TNS
'The radio is too loud.' (A_10-09-18_53)

b. *Radio ma chitólih!*
radio-m-a **chitooli**-h
radio-DEM-OBL loud-TNS
'Turn the radio up!' (E_01-31-18_15)

For some speakers, *katali* 'be tight'/'tighten' behaves the same way.

tionally delete before *-chi* when *-li* follows an open syllable. So *baliichih*, in (97c), would simply be *baliilichih* following *-li*-deletion.

(97) **Potential derivation of *balii-chi-h* under '*-li*-deletion' analysis (to be rejected)**

a.	*balii-li-h*	she ran
b.	*balii-li-chi-h*	she made him run
c.	*balii-chi-h*	she made him run

I do not adopt this analysis, since it entails that pairs like *baliilichih* and *baliichih* differ only in their morphology, and thus should have the same interpretation. Instead, under the account here, *baliilichih* is a syntactic causative of the intransitive motion verb *baliilih* 'run', which is itself formed from a root $\sqrt{\text{BALI}}$ and a Voice$_{[\ ]}$ head *-li* (see §3.4.3). In contrast, *baliichih* is a lexical causative built by merging Voice$_{[+N]}$ (*-chi*) directly with the vP containing the root $\sqrt{\text{BALI}}$. The two different forms do indeed correlate with different interpretations (cf. §3.5.1), implying that the *-li*-deletion analysis is incorrect and that the forms do instantiate different syntactic structures. In (98a-b), we see that *baliichi* has direct causation interpretations (with inanimate objects), while (98c) shows that *baliilichi* goes more naturally with indirect causation (with an animate object).

(98) ***Balii-chi-h* 'she ran X' ≠ *balii-li-chi-h* 'she made X run'**

a. *Áshko áyachífa ma̲ bila ish lipílikma̲ oka lashpa balíchih.*
áashko aay-achíifaa-m-a̲ bíla ish-lipiili-km-a̲ oka lashpa
dish LOC-wash.ACT.NMZ-DEM-OBL grease 2SG.ERG-?put-if-DS water hot
balii-chi-h
$\sqrt{\text{RUN}}$-**CAUS**-TNS
'If you put grease in the sink, **run** hot water.' (B_06-20-17_27)

b. *Kapassa kat i̲shahli alhlhi ka̲ a̲ hina chanalli balíchilik makáchih.*
kapassa-k-at i̲shahli álhlhi-k-a̲ a̲-hina chanálli **balii-chi**-li-kmakaachih
cold-COMP-SS exceed before-COMP-DS 1SG.DAT-car $\sqrt{\text{RUN}}$-**CAUS**-1SG.ERG-should
'Before it gets colder I need to **run** my car.' (C_01-30-18_192)

c. *Johnny píh binílih átoko̲, im achokmalílachi̲ hátósh balílichílitok.*
Johnny píih biniili-h aatok-o̲, im-achokmalii-l-aachi̲-h-aat-oosh
Johnny just sit-TNS because-DS DAT-please.ACT-1SG.ERG-FUT-TNS-because-SS
baliili-chii-li-tok
run-CAUS-1SG.ERG-PST
'Johnny was just sitting around so I **made him run** to make him better.' (A_10-18-19a_3)

Similarly in (99) we see that *biniichih* 'to sit someone down' receives a direct causation interpretation, while *biniilichih* 'to make someone sit down' is more naturally interpreted as indirect causation (cf. §3.5.1).

(99) ***Binii-chi-h* 'she sat X down' ≠ *binii-li-chi-h* 'she made X sit down'**

a. *Alla sabbak ishit biníchilitok.*
alla sa-bbak ishit=**binii-chi**-li-tok
child 1SG.ABS-hand INSTR=$\sqrt{\text{SIT}}$-**CAUS**-1SG.ERG-PST
'I **sat** the kid down with my hands.' (A_04-17-19_30)

b. *Washóha kat achokma kiyo hátokǫ binílichílitok.*
washooha-k-at achokma-kiyo-h-aatokǫ **biniili-chii**-li-tok
play-COMP-SS good-not-TNS-because-DS **sit-CAUS**-1SG.ERG-PST
'He wasn't playing nicely so I **made him sit** down.' (A_04-17-19_32)

However, even though I do not adopt the *-li*-deletion analysis, it captures the fact that there is a phonological generalization about possible combinations of roots and Voice$_{[+N]}$ (*-chi*): Voice$_{[+N]}$ is only ever selected by roots that end with a vowel. This could be viewed as a morphosyntactic conspiracy to avoid generating a syntactic structure that would have to be linearized with an illegal consonant cluster, e.g. <shch>, as in (100).

(100) *bash-li-h* she cut it
**bash-chi-h*

Is this a problem for the different-structures analysis proposed here? Not necessarily. Alexiadou et al. (2015) show that non-active morphology in Greek, which they argue also merges directly with the vP containing the root, is restricted by phonological factors too. Laks (2009) notes a similar restriction on passive formation in Palestinian Arabic. These kinds of restrictions between roots and vP-attaching 'low' voice morphology (voice morphology that is sufficiently close to the root to be idiosyncratically selected by it) do not count as 'conspiracies', since they ultimately concern the idiosyncratic distribution of selection features to roots in the lexicon, and thus are expected to be influenced by cognitive and diachronic factors.

What's more, the *-li*-deletion analysis is incomplete anyway: there are many roots that end in a vowel but which simply do not allow *-li* to be swapped out for *-chi*. Some examples are given in (101).

(101) **Vowel-final roots which reject *-li*>*-chi* substitution**

a. *boo-li-h* she beat him up
**boo-chi-h*

b. *koo-li-h* she smashed it
**koo-chi-h*

c. *i̲cho̲-li-h* she wrote it
**i̲cho̲-chi-h*

I thus believe that an analysis in which roots arbitrarily elect to introduce an external argument with Voice$_{[\,]}$ (*-li*), Voice$_{[+N]}$ (*-chi*), or either, is superior to a *-li*-deletion account.[42]

42. The picture of '*-li*-deletion' in Choctaw should be contrasted with Chickasaw, where non-lengthened *-li* is obligatorily deleted in stem-final position before most suffixes (Munro 1985b, Munro and Willmond 1994:xxxv). In contrast to Choctaw, *-li*-deletion in

3.5.6 Lexical causatives with *-chi* may undergo syntactic causativization

The next piece of evidence that some lexical causatives may be formed with $\text{Voice}_{[+N]}$ (*-chi*) comes from the fact that they themselves may be causativized.

First, note that 'ordinary' agentive verbs—lexical causatives and unergatives—can be causativized, as shown in (102).

(102) **Unergatives and agentive transitives can be causativized**

a.	*taloowa-h*	he sang
	taloowa-chi-h	she made him sing
b.	*koo-li-h*	he broke it
	koo-li-chi-h	she made him break it

By contrast, syntactic causatives *cannot* be causativized, as shown in (103) (or at least, it is difficult—I discuss some complications momentarily).

(103) **Syntactic causatives resist causativization**

a.	*taloowa-chi-h*	she made him sing
	#*taloowa-chii-chi-h*	
b.	*hilhaa-chi-h*	she made him dance
	#*hilhaa-chi-chi-h*	

Crucially, some verbs formed with *-chi* (including unergatives formed with *-chi*) *can* be causativized, as in (104), though they often require appropriate context.[43] (104d) provides a full sentence containing a causativized lexical causative.

(104) **Some verbs formed with *-chi* may be causativized**

a.	*tiwaa-chi-h*	she stirred it
	tiwaa-chi-chi-h	she made him stir it
b.	*nonaa-chi-h*	she cooked it
	nonaa-chi-chi-h	she made him cook it
c.	*chamaaka-chi-h*	it rang
	chamaaka-chii-chi-h	he made it ring

Chickasaw does appear to have the character of a (morpho)phonological rule.

43. Speakers tend to find causativized lexical causatives easier to judge when the causee is 1st/2nd-person, and thus clitic-doubled:

(i) *Issa haloppachíchách<u>i</u> h<u>o</u>?*
is-sa-haloppa-chii-ch-aach<u>i</u>-h-<u>o</u>
2SG.ERG-1SG.ABS-sharp-CAUS-CAUS-FUT-TNS-Q
'Are you going to make me sharpen it?'

d. *Okla kí t̲iwo k̲isha k̲a̲, am áy̲i̲pa m̲o̲ma k̲a̲ kashóchichílitok.*
okla=kii-tíiw-o-k-i̲sha-k-a̲, am-aay̲ípa mó̲ma-k-a̲
PL=1PL.IRR-open.NACT:LG-NEG-NEG-yet-COMP-DS 1SG.DAT-table all:NG-COMP-DS
kashoo-chi-chii-li-tok
$\sqrt{\text{WIPE}}$-**CAUS-CAUS**-1SG.ERG-PST
'Before we opened, I made them wipe all of my tables.' (A_10-18-18_63)

These *-chi*-formed verbs therefore pattern with lexical causatives, and pattern differently from syntactic causatives, in their ability to undergo causativization. While I do not have an explanation for the impossibility (or at least extreme difficulty) of forming a syntactic causative from a syntactic causative, the ban on true double-causativization is common cross-linguistically, and possibly universal—I refer the reader to Key (2013:ch.6) for discussion.

Support for the reliability of the double-causativization diagnostic comes from the fact that we see the same effect in Japanese: lexical causatives formed with the 'elsewhere causative' morpheme *-(s)ase* can themselves undergo syntactic causativization, as in (105a). By contrast, syntactic causatives formed with *-(s)ase* cannot themselves undergo causativization, as in (105b).

(105) **Japanese: Compatibility with 'double causativization' as a diagnostic for lexical causatives**

a. oHanako-ga Taroo-ni yotei-o aw-**ase-sase**-ta.
Hanako-NOM Taro-DAT schedule-ACC match-**CAUS-CAUS**-PST
'Hanako made Taro match the schedule.'

b. *Sensei-ga Hanako-ni kodomo-o yukkuri taore-**sase-sase**-ta.
teacher-NOM Hanako-DAT child-ACC slowly fall.down-**CAUS-CAUS**-PST
('The teacher made Hanako make the child fall down slowly.') (Miyagawa 2012:198-199)

See §3.5.10 for an explicit comparison between Japanese and Choctaw causatives, lexical and syntactic.

However, a complication with the Choctaw data merits discussion. We *do* in fact find sequences of two consecutive *-chi* morphemes that cannot be analyzed as causativized lexical causatives like (104).[44] Some examples are given in (i).

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44. Martin (1991:208) notes that so-called 'long causatives', in which two consecutive causative morphemes are used to form a ('single') causative, are found in the Muskogean languages including Creek, Alabama, Choctaw and Chickasaw. Martin's Chickasaw examples, featuring two instances of the causative morpheme *-chi* are given in (1).

(i) **Chickasaw: 'long causatives'**

a. *ishko* 'to drink'
ishkochichi 'to make drink'

b. *anchi* 'to cover oneself'
anchichichi 'to cover'

c. *isso* 'to hit'
issochichi 'to make hit'

Munro and Willmond (1994) describe *-chichi* as being restricted to particular stems with heavy penults. I refer the reader to Martin (1991) for discussion of long causatives in other Muskogean languages.

(106) **Verbs with *-chi-chi* which are not causativized lexical causatives**

a. *Talówachíchilish hilháchilitok.*
taloowa-chíi-chi-lii-sh hilhaa-chi-li-tok
sing-CAUS:LG-CAUS-1SG.ERG-PTCP dance-CAUS-1SG.ERG-PST
'I made him sing and dance.' (A_10-16-18_6)

b. *Baláchichílitok.*
balaa-chi-chii-li-tok
crawl-CAUS-CAUS-1SG.ERG-PST
'I made him crawl.' (A_10-25-18_19)

Note, however, that these cannot be analyzed as 'true' double causatives either: semantically and syntactically, they are (single) syntactic causatives.

One potential analysis of these 'spurious double causatives' could lie in a cross-linguistically-attested phenomenon of *causative reduplication*. This phenomenon, discussed by Key (2013:ch.6), is when a causative morpheme is iterated for semantic or pragmatic effect, without changing the valency of the verb. 'Vacuous' causative reduplication is illustrated in the Turkish examples in (107), and is also attested in at least Kashmiri, Hungarian and Tsez (see the citations in Key 2013:222).[45]

(107) **Turkish: causative reduplication**

a. Saç-ım-ı kes-tir-di-m.
hair-1SG-ACC cut-CAUS-PST-1SG
'I had my hair cut.'

b. Saç-ım-ı kes-tir-t-ti-m.
hair-1SG-ACC cut-CAUS-CAUS-PST-1SG
'I had my hair cut.' (Göksel and Kerslake 2004)

I leave it to future work to explore spurious double causatives in Choctaw. The essential point here is that apparent examples where syntactic causatives undergo a second round of syntactic causativization are not *true* cases of double syntactic causativization, and so the general ban on double syntactic causativization in Choctaw stands.

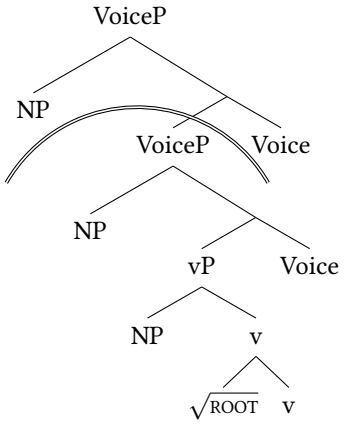
3.5.7 When Voice$_{[+N]}$ (*-chi*) conditions the interpretation of the root

In this section and the next, I outline two more arguments in favor of 'low' (vP-selecting) Voice$_{[+N]}$ (*-chi*), all of which depend on the idea that functional heads that are sufficiently local to the root can interact with it in ways that more distant functional heads cannot. Specifically, the lower Voice head in (108) should be able to condition special interpretations on the root, and the root should be able to condition particular interpretations of the Voice head. In §3.2.3 and in the introduction (§1.3.1), I invoked a common analysis

45. I thank Yining Nie for bringing this work to my attention.

that we should think of this distinction in terms of *phases*: the lower Voice head is in the same phase as the root, and so they can condition each other's interpretation; the higher Voice head is in a separate phase, and no conditioning relation can hold across this boundary.[46] The relevance of root-Voice locality to semantic interpretation in particular has been previously recognized by Miyagawa (1980, 1984, 1989), as well as by Kratzer (1996) and Marantz (1997) who propose that agents cannot participate in idiomatic interpretations that involve the root.[47] The proposed phase boundary is shown between the two Voice heads in (108), which is repeated from (77).

(108) **Higher Voice head in a syntactic causative is outside the minimal phase containing the root**



In this section, I show that with some verbs that end in *-chi*, the addition of *-chi* changes the interpretation of the root in unpredictable ways (the next section shows that the conditioning relation can go the other way too). Under the analysis just stated, this means that *-chi* must realize a functional head that is phasemate

46. As discussed in §1.3.1, we expect a similar contrast to hold for (morpho)phonological conditioning relations: low (vP-selecting) Voice heads should be able to condition the phonology of the root, and vice versa, while high Voice heads, merged outside of the phase containing the root, should *not* be able to condition the phonology of the root, nor should the root be able to condition the phonology of the Voice head.

We do indeed find that low Voice$_{[-N]}$ (*-a*) and Voice$_{[\ ]}$ (*-li*) heads have these kinds of phonological conditioning relations. For instance, in (i.a), we see that the root for 'steal' alternates between *lohm-* in the active and *lom* in the non-active, and in both (i.a) and (i.b), we see that the the Voice$_{[\ ]}$ suffix, canonically realized as *-li*, is instead realized as *-i*.

(i) a. *lohm-i-h* — she hid it
lom-a-h — she hid (herself)

b. *fokk-i-h* — she inserted it
fokk-a-h — she entered

A perusal of the alternating verb pairs in the appendix to Ulrich (1986) reveals many such root-specific idiosyncrasies. Even Voice$_{[+N]}$ (*-chi*), seems to show some idiosyncratic morphophonological interactions with the root when it is low (i.e. vP-selecting, i.e. forming a lexical rather than syntactic causative). One notable example comes from transitive quantifier verbs discussed in more detail in §3.5.8. The quantifier roots differ in vowel quality depending on the presence vs. absence of the *-chi* suffix:

(ii) a. *mo̲ma-h* — 'they are all'
momi̲-chi-h — 'she did it to all of them'

b. *toklo-h* — 'they are two'
tokli̲-chi-h — 'she did it to both of them'
tokla̲-chi-h

47. See Harley and Stone (2013) for recent discussion of Marantz's (1997) 'No Agent Idioms' hypothesis.

with the root—i.e. a *low* Voice$_{[+N]}$ head.

Let's first consider how verb pairs that participate in the causative alternation can differ from each other in their interpretation, and what would count as an 'idiosyncratic' or 'unpredictable' change in the interpretation of the root (as opposed to other components of the root-adjacent functional structure). Cross-linguistically, common ways in which the interpretation can vary between an active and a non-active alternant formed from the same root include the presence vs. absence of agentive semantics (e.g. (109)), or the presence vs. absence of reflexive or reciprocal semantics (e.g. (110)). Both kinds of alternation are illustrated below with examples from Hebrew.

(109) **Hebrew: active alternant adds agentive semantics**

a. dana **ʃavr-a** l-i et ha-ʃaon
Dana **broke.SMPL-F.SG** to-me ACC the-watch
'Dana broke my watch.'

b. ha-kise **niʃbar** me-atsmo
the-chair **broke.NACT** from-itself
'The chair fell apart of its own accord.' (Kastner 2020:30, 58)

(110) **Hebrew: active alternant adds reflexive/reciprocal semantics**

a. dani **pagaʃ** et dina
Dani **met.SMPL** ACC dina
'Dani met Dina.'

b. dani ve-dina **nifgeʃu**
Dani and-Dina **met.NACT**
'Dani and Dina met.' (Alexiadou and Doron 2012:9)

Another way causative alternants can vary, semantically, is for there to be essentially *no* change in interpretation. Rather, the only difference will be whether the agent role is assigned to a syntactically-projected NP, or whether it is existentially bound, as illustrated with the pair from Hebrew in (111)

(111) **Hebrew: active alternant does not change semantics of non-active; changes syntax only**

a. ha-talmidim **katv-u** et ha-nosim
the-students **wrote.SMPL-PL** ACC the-topics
'The students wrote the topics down.'

b. ha-xiburim **nixtev-u**
the-essays **wrote.NACT-PL**
'The essays were written.' (Kastner 2020:2)

Each kind of meaning difference illustrated in (109-111) is unpredictable—that is, for a given root, the child learner must simply memorize whether the non-active verb formed from that root will have an inchoative, reflexive or passive-like meaning. However, each of these has been argued to involve a difference in the

interpretation of *Voice* (specifically in the interpretation of non-active, specifierless Voice), rather than in the interpretation of the root itself (Alexiadou and Doron 2012, Alexiadou et al. 2015, Wood 2016, Kastner 2020, a.o.). What about true differences in how the *root* is interpreted, between an active and a non-active alternant?

One fairly clear example comes from Icelandic. In (112), we see that there are two (intransitive) anticausative verbs corresponding to the transitive verb *gleðja* 'gladden'. Each of the anticausatives is formed with a different anticausative morpheme (*-st* or *-na*), and each has a different meaning. The anticausative formed with *-st*, in (112b), has an interpretation that is predictable given its transitive counterpart, but the one formed with *-na*, in (112c), receives several unpredictable interpretations, just one of which is shown.

(112) **Icelandic: root interpretation varies between lexical causative and anticausatives**

a. Hún **gleður** mig með tónlist sinni.
she.NOM **gladdens** me.ACC with music REFL.POSS
'She gladdens me with her music.'

b. Ég **gleðst** yfir að sjá þig.
I.NOM gladden-ST over to see you
'I gladden over seeing you.'

c. Himinn **glað**-na-ði.
heavens **glad**-NA-PST
'The heavens cleared.' (Wood 2016:9)

Here we can say that the Voice head realizing *-na* is able to, in some way, condition the interpretation of the root, since these meaning differences are *not* in the purview of the semantic contribution of the Voice head (see Wood 2015 for more nuanced discussion of contextually-conditioned differences in the semantic contribution of roots).

Turning back to Choctaw, here too we find idiosyncratic differences in the meaning of the root between an active and non-active alternant (in addition to interpretative differences that can be localized to the Voice head). The alternating pairs in (113) each differ from each other in interpretation in a way that *cannot* be localized to the interpretation of Voice.

(113) **Root interpretation varies between active (formed with *-li*) and non-active**

a.	*atob-li-h*	she paid him
	alhtob-a-h	he was paid/was replaced
b.	*nokbiip-li-h*	she winded him
	nokbiip-a-h	he is out of breath
c.	*chokcho-li-h*	she tickled him
	chokchow-a-h	he laughed/was tickled
d.	*lhakof-fi-h*	she saved him
	lhakoof-a-h	he escaped/was saved

e.	*ataklam-mi-h*	she bothered him
	ataklam-a-h	he is worried/busy
f.	*okcha-li-h*	she woke him
	okch̲á̲y-a-h	he is alive

It is true for that for many of these pairs, the difference in interpretation is somewhat subtle, and you could definitely argue that, for instance, *nokbiiplih* 'she winded him' is the only plausible 'agentivization' of *nokbiipah* 'he is out of breath'—perhaps the plausible but unavailable interpretation in which she causes him to become out of breath by, for instance, instructing him to do push-ups, is too indirect of a causal relationship to be encoded as a lexical causative (cf. §3.5.1). Nonetheless, I hope that all readers will agree that at least some of these pairs show idiosyncratic differences in root interpretation.

Let's now turn to the hypothesis I argue for in this section—that with some roots, Voice$_{[+N]}$ (*-chi*) may be merged directly with vP. If this hypothesis is correct, we might expect to find roots whose interpretation will change in unpredictable, idiosyncratic ways when Voice$_{[+N]}$ (*-chi*) is merged, just as with the alternating pairs in (113). This is indeed what we find—some examples are given in (114).

(114) **Root interpretation varies between active (formed with *-chi*) and non-active**

a.	*haksi-h*	he is drunk/confused
	haksi-chi-h	she tricked him (not 'she got him drunk/it confused him')
b.	*hokchafo-h*	he is hungry
	hokchafoo-chi-h	she starved him (not 'she/it made him hungry')
c.	*wiiki-h*	it is heavy
	wiiki-chi-h	she weighed it (not 'she weighted it/made it heavy(er)')
d.	*palhki-h*	it is fast
	palhki-chi-h	she sped it (of a vehicle/horse) (not 'she made it fast(er)')
e.	*halasbi-h*	it is slippery
	halasbi-chi-h	she ironed it (not 'she made it slippery')

If it is true that syntactic causatives cannot condition idiomatic interpretation of the causativized predicate, then the data in (114) supports the claim that these *-chi* forms are lexical causatives, formed by merging Voice$_{[+N]}$ directly with vP, rather than syntactic causatives.

The ability of a low Voice head to condition the interpretation of the root leads us to expect to find another kind of 'alternation': one where single root is able to form transitives with both Voice$_{[\ ]}$ (*-li*) and Voice$_{[+N]}$ (*-chi*), with each Voice head conditioning a different interpretation of the root. I believe we do indeed find examples like this, illustrated in (115) (repeated in part from (94)).

(115) **Root interpretation varies between actives formed with *-li* and *-chi***

a.	*apissa-li-h*	she straightened it
	apissa-chi-h	she is focused on it
b.	*chitoo-li-h*	she made it louder
	chitoo-chi-h	she made it big(ger)
c.	*apakfoh-li-h*	she wrapped it (with sth.)/they surrounded it
	apakfoo-chi-h	she wrapped it tightly (with sth.)

We also find pairs like those in (116), where a root may appear with *-chi* or with no overt voice morphology, without *-chi* increasing the valence of the verb (Broadwell 2006:134).

(116) **Root interpretation varies between actives formed with Ø and *-chi***

a.	*fokki-h*	she inserted it
	fokki-chi-h	she greased it
b.	*ahni-h*	she thought/hoped/wished it
	ahni-chi-h	she liked it

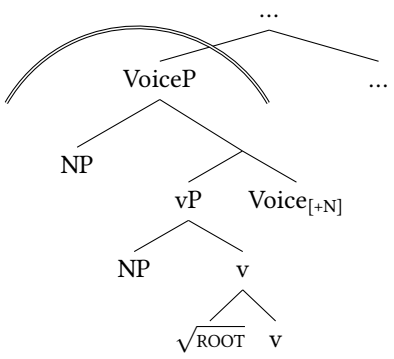
I assume that the *-chi*-less forms here include a Ø Voice head—see §3.9.1 for discussion of the necessity of a Ø allomorph for $\text{Voice}_{[\ ]}$ or $\text{Voice}_{[+N]}$.

In summary, verbs ending in *-chi* sometimes have meanings that differ in idiosyncratic or unpredictable ways from their *-chi*-less counterparts. Those differences cannot be localized to the interpretation of the Voice head, and so it must be that the functional head realizing *-chi* can condition the interpretation of the verb root. Under the assumption that only the Voice head that is most local to the root can condition it, these verbs must then be formed by merging $\text{Voice}_{[+N]}$ directly with the minimal vP containing the root.

3.5.8 When the root conditions the interpretation of $\text{Voice}_{[+N]}$ (*-chi*): transitive quantifier verbs

In the previous section (§3.5.7), I showed that $\text{Voice}_{[+N]}$ (*-chi*) may, sometimes, condition the interpretation of the root, when it is in the same phase as the root, as illustrated in (117).

(117) **Phase boundary at lowest VoiceP containing root**



In this section I show that the conditioning relation can go in the other direction too—that certain roots condition a particular, unusual interpretation of the Voice$_{[+N]}$ head.

So far, we have only addressed one of Voice$_{[+N]}$'s possible interpretations—when it introduces an unsaturated agent role, with the interpretation rule in (118b) (repeated from (33b). However, in this section I show that Voice$_{[+N]}$ must also have an *expletive* interpretation, as in (118a), which arises in the context of certain roots.[48]

(118) **Allosemes of Voice$_{[+N]}$ (*-chi*)**

a. $[\![\ \text{Voice}_{[+N]}\ ]\!] \leftrightarrow \emptyset\ /\ \{\sqrt{\text{MOMA}}, \sqrt{\text{TOKLO}}, \sqrt{\text{ILLA}}, \ldots\}$

b. $[\![\ \text{Voice}_{[+N]}\ ]\!] \leftrightarrow \lambda x.\lambda e.\textsc{agent}(x, e)$

Specifically, I argue that *transitive quantifier verbs* must condition the expletive interpretation of Voice$_{[+N]}$ (*-chi*).

First, note that Choctaw has a number of verbs which quantify over one of their arguments. Intransitive quantifier verbs quantify over their sole argument, as in (119).

(119) **Intransitive quantifier verbs**

a. Ii-tóchchiina-h.
1PL.ERG-three-TNS
'There are three of us.' (Broadwell 2006:226)

b. *Oklí mo̲ma kat alla ma̲ il i̲ nokshópah.*

okl=ii-mó̲ma-k-at	allaa-m-a̲	il-i̲-nokshoopa-h
PL=1PL.ERG-all:NG-COMP-SS	child-DEM-OBL	1PL.ERG-scare.NACT-TNS

'All of us are scared of that kid.' (J_06-14-16_30)
(lit. 'We who are all are scared of that kid.')

We can think of these verbs as 'non-active' quantifier verbs (although they are stative and morphologically unmarked, so I make no argument about whether they have or lack a Voice layer).

In addition to the non-active, intransitive quantifier verbs, some quantifier verbs can appear with the suffix *-chi*. Syntactically, these verbs are like other active or lexical causative verbs in that (a) they are transitive, and (b) their object corresponds to the subject of their intransitive counterpart. However, there is no obvious causative interpretation. Rather, their function is to quantify over the object of the clause in which they appear, leading Broadwell (2006:227) to offer literal translations such as 'to do it to all of them' for the verb *mo̲mi̲chih*, as in (120a). Two examples are given in (120).

48. It's also true that the external-argument-introducing Voice head has to be able to assign a *state-holder* role, which may be a separate category from the agent role (Kratzer 1996). But I abstract away from that here, and subsume it under the agent role.

(120) **Transitive quantifier verbs adjoin to transitive verbs; quantify over object**

a. *Alla mat tobi momi̲chi cho̲pa bannah.*
allaa-m-at tóbi **momí̲-chi**:NG cho̲pa banna-h
child-DEM-NOM bean $\sqrt{\text{ALL}}$**-CAUS** buy want-TNS
'The child wants to buy all the beans.' (K_06-27-16_82)
(lit. 'The child wants to buy beans, doing it to all of them.')

b. *Hattak at ofi itta tokli̲chit hoklitok.*
hattak-at ofi itta-**tokli̲-chi**:NG-t hokli-tok
man-DEM dog RECIP-$\sqrt{\text{TWO}}$**-CAUS**-PTCP catch-PST
'The man caught both of the dogs.' (C_02-05-18_87)
(lit. 'The man caught the dogs, doing it to both of them.')

Note that transitive quantifier verbs must always be supported by a clausemate verb, and are either unmarked, as in (120a) or are marked the participial suffix *-t*, as in (120b). They never appear as main verbs.

I propose that transitive quantifier verbs have the usual syntactic structures that we expect of *-chi*-formed lexical causatives. Voice$_{[+N]}$ merges with vP and performs its usual syntactic duty by introducing an external argument. What is different about Voice$_{[+N]}$ in these cases is its interpretation: rather than assigning an agent role, Voice here is expletive (as in (118a)).

There are two arguments that Voice$_{[+N]}$ (*-chi*) in transitive quantifier verbs cannot be contributing agentive semantics. Firstly, the subject argument of the quantifier verb is not interpreted as the 'causer' of the quantification. For instance, *tokli̲chih* (as in (120b)) can be never be interpreted as 'causing them to become two in number', although that is a perfectly coherent idea. Secondly, transitive quantifier verbs may adjoin in clauses where the subject does not receive an agent role. As discussed in chapters 4 and 5, Choctaw has a number of transitive verbs whose subjects are doubled by ABS or DAT clitics, and which uniformly do *not* have agentive semantics. Yet (121) shows that these verbs may combine with transitive quantifier verbs, resulting in the expected quantified-object interpretation.

(121) **Transitive quantifier verbs may adjoin to non-agentive transitive verbs**

a. ABS>ABS verb
Biscuit itta tokla̲chit sannah.
biscuit itta-**toklá̲-chi**-t sa-nna-h
biscuit RECIP-$\sqrt{\text{TWO}}$**-CAUS**:NG-PTCP 1SG.ABS-want-TNS
'I want both of the biscuits.' (B_10-15-19b_33)

b. DAT>ABS verb
Áyishko holítopat itta tokla̲chit am ittólana kówah.
aayíshko holiitopa-t itta-**toklá̲-chi**-t am-ittóola-na
cup expensive-NOM RECIP-$\sqrt{\text{TWO}}$**-CAUS**:NG-PTCP 1SG.DAT-fall:LG-and.DS
koowa-h
smash.NACT-TNS
'I dropped both of the expensive glasses and they smashed.' (B_10-15-19b_45)

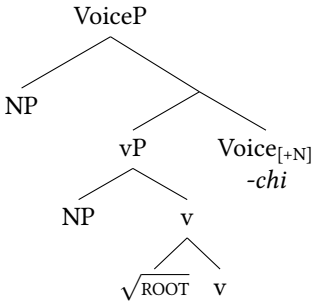
c. ABS>DAT verb
Hattak mat momichit hapi noktalhah.
hattak-m-at **momí-chi**-t hapi-noktalha-h
man-DEM-NOM $\sqrt{\text{ALL}}$-**CAUS**:NG-PTCP 1PL.DAT-be.jealous-TNS
'That man is jealous of all of us.' (B_10-15-19b_39)

I do not provide a syntactic or semantic analysis for how transitive quantifier verbs combine with their supporting verb to create the quantified-object reading. The crucial point for present purposes is that there is a syntactically-projected external argument which fails to receive an agent role. See Broadwell (2006:ch.14) and Munro (2017) for in-depth discussion of quantification in Choctaw and closely-related Chickasaw.

3.5.9 Lexical causatives with *-chi*: summary

In this section so far, I have made the case that Choctaw has some lexical causatives formed by merging $\text{Voice}_{[+N]}$ (*-chi*) directly with the vP containing the root, as in (122). This is the same syntactic structure as we find with an active verb, but with $\text{Voice}_{[+N]}$ instead of $\text{Voice}_{[\ ]}$.

(122) **Structure of a lexical causative formed with $\text{Voice}_{[+N]}$ (*-chi*)**



Eight pieces of evidence were presented:

(123) **Evidence that *-chi* can form lexical causatives**
a. Lexical causatives formed with *-chi* are different from causativized non-actives (§3.5.1).
b. Lexical causatives with *-chi* do not necessarily entail the causativized predicate (§3.5.2).
c. There are unergatives formed with *-chi* (§3.5.3).
d. There are transitives formed with a bound root plus *-chi* (§3.5.4).
e. *-Chi* can replace *-li* with some roots (§3.5.5).
f. Some *-chi* verbs may themselves undergo syntactic causativization (§3.5.6)
g. *-Chi* can condition an idiosyncratic interpretation of the root (§3.5.7).
h. Roots (specifically quantifier roots) can condition an idiosyncratic non-agentive interpretation of *-chi* (§3.5.8).

In the final part of this section, I compare this analysis with a similar analysis developed for Japanese and Hiaki causatives by Harley (2008), based on work on Japanese causatives by Miyagawa (1980, 1984, 1989).

3.5.10 Comparison with the Miyagawa-Harley analysis of synthetic causatives

The analysis presented here, in which the same functional head can be used to form both syntactic and lexical causatives, is indebted to earlier work on languages where causatives exhibit a similar behavior. In Japanese, for instance, a morpheme *-(s)ase* can be productively suffixed to virtually any verb, forming a causative verb with a predictable interpretation. An example is given in (124).[49]

(124) **Japanese: syntactic causative**

Taroo-ga Hanako-o ik-**ase**-ta.
Taroo-NOM Hanako-ACC go-**CAUS**-PST
'Taroo made Hanako go.' (Harley 2008:21)

In addition, *-(s)ase* can also be suffixed to a number of unaccusative verbs to form *lexical* causatives. An example is given in (125)—the unpredictable interpretation of [root + *-(s)ase*] shows that it is a lexical causative (per the reasoning in §3.5.7).

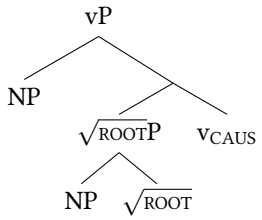
(125) **Japanese: lexical causative with idiomatic interpretation**

Taroo-ga zisyoku-o niow-**ase**-ta.
Taroo-NOM resignation-ACC smell-**CAUS**-PST
'Taroo hinted at resignation.' (lit. 'Taroo made resignation smell.') (Harley 2008:22)

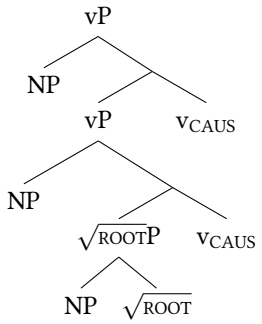
On the basis of this distinction, Harley (2008) argues that *-(s)ase* is the realization of a functional head v_{CAUS}, which introduces an external argument in its specifier, and is used to form both syntactic causatives and lexical causatives (making it equivalent to 'Voice' here). If v_{CAUS} takes as its complement the constituent labelled '$\sqrt{\text{ROOT}}$P', containing the verb root and the theme, as in (126a), the resulting structure corresponds to a lexical causative; if v_{CAUS} takes as its complement another v_{CAUS}, as in (126b), the result is a syntactic causative.

(126) **Japanese causatives in Harley (2008)**

a. Lexical causative



b. Syntactic causative



49. In this brief description I elide many complexities of causative formation in Japanese, in particular the distinction between 'make'-causatives with accusative causees and 'let'-causatives with dative causees.

So far this is very similar to the analysis proposed in this chapter, the idea that both analyses share being that the external argument may be introduced by the same functional head in both lexical and syntactic causatives (v_{CAUS}/Voice). However, what is different about Harley's analysis is that, for her, *all* lexical causatives are constructed with v_{CAUS}, which she analyzes to have a wide variety of possible morphological realizations.

In particular, *-(s)ase* is the default or *elsewhere* spellout of v_{CAUS}, and it expones v_{CAUS} in the context of a small number of roots (as in (125)/(126a)) as well as whenever v_{CAUS} is too distant from a root to be conditioned by it (as in syntactic causatives like (124)/(126b)). Some other suffixes used to form lexical causatives, which Harley analyzes as root-conditioned exponents of v_{CAUS}, are given in (127) (originally from Jacobsen 1992).

(127) **Japanese: other suffixes used to form lexical causatives**

a. *-e-*

ag-ar-u	'rise' (intr.)
ag-**e**-ru	'rise' (tr.)

b. *-s-*

arawa-re-ru	'show (up)' (intr.)
arawa-**s**-u	'show (up)' (tr.)

c. Ø

hag-e-ru	'peel off' (intr.)
hag-**Ø**-u	'peel off' (tr.)

By contrast, in the analysis proposed in this chapter, lexical causatives *can* be formed with the functional head $Voice_{[+N]}$ (*-chi*), which is the functional head used to introduce the causer in syntactic causatives, *but* there is another way to form lexical causatives—using the underspecified head $Voice_{[\ ]}$ (*-li*). In this way, the account proposed here allows for transitives formed with different suffixes (in Choctaw, *-li* vs. *-chi*) to have different interpretations, while Harley's account assumes that the difference is solely allomorphic.[50]

3.6 $Voice_{[-N]/[\ ]/[+N]}$ (*-a*/*-li*/*-chi*) in the pluractional alternation

Many change-of-state verbs in Choctaw participate in a morphologically-marked *pluractional* alternation (see Byington 1870:352-353, Nicklas 1974:57-61, Broadwell 1988, 1993, 2006:134-135 for discussion, see also §4.5.2). This alternation cross-cuts the causative alternation, meaning that many of change-of-state roots have four possible stem forms. An example of a change-of-state verb for which all four parts are attested is

50. Oseki (2017) and Oseki and Kastner (2017) show that the Japanese causative alternation makes use of valency-marking suffixes which appear to be underspecified regarding whether they do or do not introduce an external argument, and propose an alteration of Harley's analysis along the lines of the trivalent analysis employed in this chapter and in Kastner's work.

shown in (128).[51]

(128) **Stems formed from $\sqrt{\text{KALA}}$ 'scratch'**

kalaa-⌈f-a⌉-h 'it was scratched (once)'	kala-⌈h-li⌉-h 'it was scratched (lots)'
kala-⌈f-fi⌉-h 'she scratched it (once)'	kala-⌈h-chi⌉-h 'she scratched it (lots)'

In this section, I show how this four-part *pluractional* alternation can be given a fairly simple analysis under the model developed thus far. The pattern is instructive because it shows that the choice of Voice head is not determined solely by the root, but by a combination of the root and its categorizing head v.

First, let's consider the conditions in which the pluractional forms of the verbs are licensed. The pluractional forms, exemplified in the right-hand column in (128), are employed in scenarios that could be construed as involving multiple events. (129) provides some active pluractional verbs, and (130) provides some non-active pluractional verbs.[52]

(129) **Active (transitive) pluractional verbs**

a. *Cans kochohchit tahlilitok.*
cans kocho-**hchi**-t tahli-li-tok
cans $\sqrt{\text{CRUSH}}$-**ACT.PL**-PTCP finish.ACT-1SG.ERG-PST
'I crushed the cans.' (A_10-08-18_80)

b. *Tan̲apo ma̲ lhokahchilitok.*
tan̲apoo-m-a̲ lhoka-**hchi**-li-tok
gun-DEM-OBL $\sqrt{\text{FIRE}}$-**ACT.PL**-1SG.ERG-PST
'I fired the gun several times.' (E_10-21-18_60)

c. *Chi kálahchit tahlih.*
chi-kaala-**hchi**-t tahli-h
2SG.ABS-$\sqrt{\text{SCRATCH}}$-**ACT.PL**-PTCP complete.ACT-TNS
'It really scratched you up.' (A_10-08-18_81)

(130) **Non-active (intransitive) pluractional verbs**

a. *Firecracker mat bokáhlih.*
firecracker-m-at bokaa-**hli**-h
firecracker-DEM-NOM $\sqrt{\text{POP}}$-**NACT.PL**-TNS
'The firecracker is popping.' (D_10-19-18_77)

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51. The active pluractional suffix is often listed as *-hlichi*, rather than *-hchi* (e.g. Broadwell 2006:135). The speakers I asked would only ever offer *-hchi*, though they recognized *-hlichi*. The difference between the two forms may be amenable to the analysis of 'non-valency-increasing *-li* + *-chi*' proposed in §3.4.4 (see Nicklas 1974:258; Ulrich 1986:270-276 Broadwell 2006:130, 219-220 for discussion of '*-li*-deletion'). Note also that the non-active pluractional form, ending in *-hli*, is often not recognized by speakers, or is taken instead to be an active, transitive form. This could well be a change currently in progress in the pluractional paradigm.

52. I know of no work on the semantic and pragmatic conditions in which pluractional verbs are licensed in Choctaw.

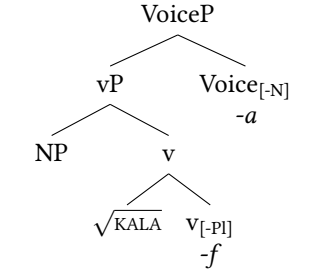
b. Koba-**hli**-h.
√BREAK-**NACT.PL**-TNS
'They broke.' (Broadwell 1993:423)

Let's now examine the forms of the pluractional and 'singulactional' verbs in more detail. The singulactional forms, in the left column in (128), each feature a morpheme *-f* between the root and the voice morpheme; the pluractional verbs in the right column feature instead a morpheme *-h*. I propose that *-f* and *-h* are exponents of a v head that is annotated with a binary pluractional feature [+/-Pl]. This is compatible with the fairly common analysis that pluractionality involves plural events (Cusic 1981, Wood 2007, Henderson 2012), combined with the assumption that the categorizing v head is responsible for introducing an event variable (on which see Alexiadou and Anagnostopoulou 2008, Anagnostopoulou and Samioti 2013, Marantz 2013b, a.o.).

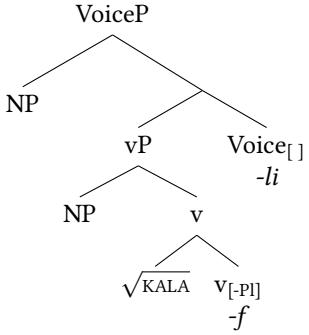
The singulactional forms express their transitivity with the common *-a* and *-li* suffixes, which, under the analysis in §3.2.1, expone Voice$_{[-N]}$ and Voice$_{[\ ]}$ respectively. The proposed structures for the singulactional verbs *kalaafa* 'it was scratched (once)' and *kalaffi* 'she scratched it (once)' are given in (131).

(131) **Structures for singulactional verbs**

a. *kalaa-f-a-h* 'it was scratched (once)'



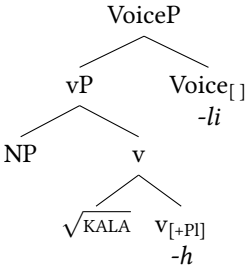
b. *kala-f-fi-h* 'she scratched it (lots)'



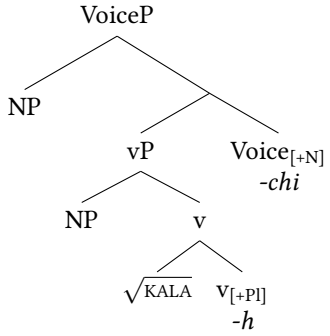
Turning now the pluractional forms, they express their transitivity with *-li* and *-chi*, which, recall from §3.2.1, expone Voice$_{[\ ]}$ and Voice$_{[+N]}$ respectively. The proposed structures for *kalahli* 'it was scratched (lots)' and *kalahchi* 'she scratched it (lots)' are given in (132).

(132) **Structures for pluractional verbs**

a. *kala-h-li-h* 'it was scratched (lots)'



b. *kala-h-chi-h* 'she scratched it (lots)'



The change in the way that the transitivity of the verb is marked, between the singulactional and pluractional forms, is highly instructive. It shows us that the choice of whether to merge $\text{Voice}_{[\text{-N}]}$, $\text{Voice}_{[\text{+N}]}$ or $\text{Voice}_{[\text{ N}]}$ with vP is not determined *solely* by the root—the categorizing head *v* may also determine which Voice head is merged. Specifically: when vP is headed by $\text{v}_{[\text{-Pl}]}$, only $\text{Voice}_{[\text{-N}]}$ and $\text{Voice}_{[\text{ }]}$ may be merged with it, as in (131). By contrast, when vP is headed by $\text{v}_{[\text{+Pl}]}$, only $\text{Voice}_{[\text{ }]}$ and $\text{Voice}_{[\text{+N}]}$ may be merged with it, as in (132). The alternation also shows us that when $\text{Voice}_{[\text{ }]}$ (*-li*) is merged with vP, the matter of whether it takes a NP specifier or not can *also* be determined by v, rather than the root: in the context of $\text{v}_{[\text{-Pl}]}$, $\text{Voice}_{[\text{ }]}$ must take a specifier, while in the context of $\text{v}_{[\text{+Pl}]}$, $\text{Voice}_{[\text{ }]}$ cannot take a specifier (see §3.4.1 for an account of how the root or v can indirectly force $\text{Voice}_{[\text{ }]}$ to take, or not to take, a specifier).

3.7 The interpretation of $\text{Voice}_{[\text{-N}]}$ (*-a*)

In this section I develop and support a part of the analysis outlined in §3.2: that non-active forms, while sharing a common morphosyntax—the specifierless $\text{Voice}_{[\text{-N}]}$ head exponed frequently as *-a*—have different interpretations, conditioned by the verb root. The emphasis in this section is on the interpretation of $\text{Voice}_{[\text{-N}]}$, though its morphological exponence is fleshed out in §3.7.6. For now, I propose that $\text{Voice}_{[\text{-N}]}$ is targeted by the VI rule in (133).

(133) $\text{Voice}_{[\text{-N}]} \leftrightarrow$ *-a*

The part of the interpretation of non-active verbs that I focus on here concerns the presence vs. absence of an *implicit agent*—a property on which the non-active verbs vary. However, this is not their only dimension of variation: notably, there is a major division between those non-active verbs that are stative and those which are eventive (see the discussion in §3.1.2). Seeing that only events are straightforwardly compatible with agents, I focus for now on eventive verbs (stative verbs scramble the diagnostics for an implicit agent

in an interesting way—see the appendix, §3.10).

I show that eventive, non-active verbs are divided into three classes—those that obligatorily introduce an implicit agent, as in (134), those that *cannot* introduce an implicit agent, as in (135), and those which have the *option* of doing so, as in (136) (these are expanded from the lists in §3.1.2).

(134) **Non-active verbs with obligatory implicit agent**

a.	*fam-mi-h*	she whipped him
	fam-a-h	he was whipped
b.	*boo-li-h*	she beat him up
	boow-a-h	he was beaten up
c.	*tapto-li-h*	she chopped it up
	taptow-a-h	it was chopped up
d.	*ichǫ-li-h*	she wrote it
	ichǫw-a-h	it was written

(135) **Non-active verbs with no implicit agent**

a.	*tokaf-fi-h*	she fired it
	tokaaf-a-h	it exploded/fired
b.	*mokof-fi-h*	she released it
	mokoof-a-h	it came loose
c.	*toshto-li-h*	she shredded it
	toshtow-a-h	it came apart
d.	*tiw-a-h*	she opened it
	tiw-a-h	it opened
e.	*akam-mi-h*	she closed it
	alhkam-a-h	it closed

(136) **Non-active verbs with optional implicit agent**

a.	*awash-li-h*	she fried it
	alwash-a-h	it (was) fried
b.	*kinaf-fi-h*	she toppled it
	%*kinaaf-a-h*[53]	it (was) toppled
c.	*libish-li-h*	she heated it
	libiish-a-h	it (was) heated
d.	*lhakof-fi-h*	she saved him[54]
	lhakoof-a-h	he escaped/was saved
e.	*chokcho-li-h*	she tickled him
	chokchow-a-h	he laughed/was tickled
f.	*kashof-fi-h*	she cleaned it
	kashoof-a-h	it was cleaned/cleaned itself

53. Some speakers I consulted seem to allow *kinaafah* to only have a inchoative or non-agentive meeting. For these speakers then, it would fall into the same class as the verbs in (17).

54. Ulrich (1986:310) lists *lhakoffih* as meaning 'heal (intransitive)', though the speakers I consulted did not share this judgment.

I refer to these classes of non-actives as *lexical passives*, *inchoatives* and *mediopassives*, respectively, as summarized in (137).

(137)

	Implicit agent?	Example
lexical passive	+	*fam-a* 'he was whipped'
inchoative	−	*koow-a* 'it smashed'
mediopassive	+/−	*kinaaf-a* 'it (was) toppled'

As a cross-linguistic 'sanity check' on this classification, Alexiadou and Doron (2012, 'A&D12') show that non-active (or 'middle') verbs in Greek and Hebrew can be classified into the same categories. This is illustrated by the examples in (138-140).

(138) **Passive**

a. moed ha-bxina nikba
date.of the-exam set.**NACT**
'The date of the exam was set.' (Hebrew, adapted from Kastner 2020:58)

b. to pukamiso stegnothike apo to Jani
the shirt dried.**NACT** by the Janis
'The shirt was dried by Janis.' (Greek, A&D12:18)

(139) **Inchoative**

a. ha-ʃi'ur nigmar
the-lesson end.**NACT**
'The lesson ended.' (Hebrew, A&D12:9)

b. i supa kaike
the soup.NOM burnt.**NACT**
'The soup burnt.' (Greek, A&D12:16)

(140) **Mediopassive**

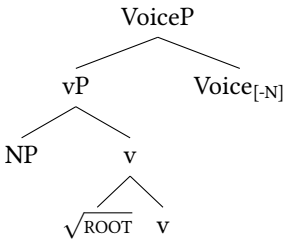
a. ktovet muzara nixteva
inscription strange write.**NACT**
{ al-yedey ha-mafginim / me-atsma b-a-ʃamayim }
by the-demonstrators from-itself in-the-sky
'A strange inscription { was written by the demonstrators / got written in the sky by itself }.' (Hebrew, A&D12:11)

b. i times miothikan
the prices lowered.**NACT**
{ apo to diefthindi / me tis nees ekseliksis }
by the director with the new developments
'The prices { were lowered by the director / went down because of the new developments }.' (Greek, A&D12:17)

Regarding the syntactic-semantic analysis of Choctaw non-actives, recall that all non-actives were pro-

posed to share the structure in (141).

(141) **Structure of non-actives**



To account for the different interpretations of the non-active, I propose that the root restricts the possible interpretations of Voice$_{[\text{-N}]}$ by *contextual allosemy* (see §3.4.1). A root may force Voice$_{[\text{-N}]}$ to take the denotation in (142a), in which an implicit agent is introduced. This results in a lexical passive interpretation. Alternatively, a root may force Voice$_{[\text{-N}]}$ to take the denotation in (142b), an expletive denotation in which *no* implicit agent is introduced. This results in an inchoative interpretation. Finally, a root may allow Voice$_{[\text{-N}]}$ to have either of the denotations in (142). This ambiguity is characteristic of the class of mediopassive non-active verbs.

(142) **Interpretation rules for Voice$_{[\text{-N}]}$**

a. $[\![\text{Voice}_{[\text{-N}]}]\!] \leftrightarrow \lambda e.\exists x.\textsc{agent}(x, e)$ / $\{\sqrt{\text{FAM}}, \sqrt{\text{KINAF}}, \ldots\}$ _

b. $[\![\text{Voice}_{[\text{-N}]}]\!] \leftrightarrow \emptyset$ / $\{\sqrt{\text{KOO}}, \sqrt{\text{KINAF}}, \ldots\}$ _

Note also that these are not the only possible interpretations of non-active verbs. In §3.7.7 I show that some non-active verbs receive reflexive interpretations (they have this too in common with Greek and Hebrew non-actives/middles, cf. A&D12), and I provide an analysis.

This section is organized as follows. Sections 3.7.1 and 3.7.2 provide two diagnostics for the presence of an implicit agent: the ability to license purpose and rationale clauses. Sections 3.7.3 and 3.7.4 then provide two diagnostics for the *absence* of an implicit agent: the ability to license *ilaap* 'by itself', and the ability to license a 'success-with-difficulty' reading in the presence of a dative object. §3.7.5 summarizes the diagnostics and fleshes out the allosemy analysis. I also raise the specter of a diagnostic that does *not* pattern as expected—instrumental phrases.[55] Finally, §3.7.6 discusses the morphology of non-active verbs in more detail, and §3.7.7 discusses the *reflexive* interpretation that some non-active verbs have.

55. Much work on the argument structure of non-active verbs cross-linguistically involves considering what kinds of agent or causer-specifying adjuncts they can take (e.g. in English, *by*-phrases with passives, *from*-phrases with anticausatives). Choctaw does not *by*-phrases or *from*-phrases, so this general line of inquiry is unavailable.

3.7.1 Licensing purpose clauses

The English examples in (143) show that purpose clauses require an agent. The agent may be syntactically-projected, as in (143a), or implicit, as in (143b), but it must be present in the semantic representation of the main clause.[56]

(143) **English: purposes clauses licensed only in presence of agent**

a. She burst the ball [to scare the child]. (overt agent)

b. The ball was burst [to scare the child]. (implicit agent)

c. #The ball burst [to scare the child]. (no agent)

Note that the relevant factor here is not whether the purpose clause has an antecedent for its subject (PRO), since the exact same judgments hold when the purpose clause is finite, as in (144), and so its subject requires no antecedent. Rather, the relevant factor is simply the presence vs. absence of the implicit agent in the matrix clause.

(144) **English: *finite* purposes clauses licensed only in presence of agent**

a. She burst the ball [so the child would be scared]. (overt agent)

b. The ball was burst [so the child would be scared]. (implicit agent)

c. #The ball burst [so the child would be scared]. (no agent)

The same test can be applied to Choctaw. Purpose clauses in Choctaw are formed in two ways (see Broadwell 2006:288–289 for further discussion and examples). The main verb features the future modal suffix *-aachi*, and either the *-k* complementizer followed by a *-at*/*-a* switch-reference marker, as in (145), or a tense morpheme followed by a *-oosh*/*-o* switch-reference marker, as in (146).

(145) **Purposes clauses formed with *-aachi-k-at*/*-a***

a. *Náchinih pist il ilhkóláchi kat okla il ittahóbah.*
[naachínih pis-t il-ilhkool-aachi-**k-at**] okla=il-ittahooba-h
thing? see-PTCP 1PL.ERG-go.PL-FUT-COMP-SS PL=1PL.ERG-gather.NACT-TNS
'We're all gathering to go see this thing.' (A_10-08-18_7)

b. *Alla nakni ma fammitok achokmat attáchi ka.*
alla nákni-m-a fammi-tok [achokma-t att-aachi-**k-a**]
child boy-DEM-OBL whip.ACT-PST good-PTCP be.SG-FUT-COMP-DS
'They whipped the boy so he would be good.' (D_10-19-18_50)

56. Example (143c) is acceptable in some unusual contexts. For instance, the ball could have sufficient agency or awareness to deliberately *choose* to burst at a particular moment. Or perhaps some world-creating authority (an author or god, for instance) is salient and all events, including inchoatives become conceptualized as somehow 'purposeful'. Given that inchoatives are still compatible with situations in which there is a clear causer ("I stamped on the ball and it burst"), the property that underlies the distinction between (143b) and (143c) may be pragmatic rather than semantic. I leave this issue for now.

(146) **Purposes clauses formed with *-aachi-h-oosh/-o***

a. [Palláska ikbi-l-aachi-**h-oosh**] bótta chopa-li-tok.
bread make-1SG.ERG-FUT-TNS-SS flour buy-1SG.ERG-PST
'I bought flour to make bread.' (Broadwell 2006:288)

b. *Allosi ma chokcholílitok yoppáchi ho.*
allosi-m-a chokcholii-li-tok [yopp-aachi-**h-o**]
child-DEM-OBL tickle.ACT-TNS-PST laugh-FUT-TNS-DS
'I tickled the baby so it would laugh.' (E_10-21-18_49)

Note that purpose clauses may share a subject with the matrix clause, as in (145a) and (146a), or may not, as in (145b) and (146b).

If we make the matrix verb a non-active verb, we see that *some* non-active verbs license purpose clauses—these are the class of lexical passives and mediopassives, by the classification in (137). In (147-149), I show that for some active/non-active pairs, both alternants license purpose clauses.

(147) ***fammi/fama* 'whip'/'be whipped'**

a. *Alla nakni ma fammitok, im alhpisáchách kat.*
alla nákni-m-a **fammi**-tok, [im-alhpisaa-ch-aachi-k-at]
child boy-DEM-OBL **whip.ACT**-PST DAT-right-CAUS-FUT-COMP-SS
'She whipped the boy to make him behave.' (D_10-19-18)

b. *Alla nakni mat famatok, im alhpisáchách ka.*
alla nákni-m-at **fama**-tok, [im-alhpisaa-ch-aachi-k-a]
child boy-DEM-NOM **whip.NACT**-PST DAT-right-CAUS-FUT-COMP-DS
'The boy was whipped to make him behave.' (D_10-19-18)

(148) ***tabli/tapa* 'cut down'/'be cut down'**

a. *Iti okla tablitok chokka ik on ittólokách ka.*
iti okla=**tabli**-tok [chokka ik-on-ittóol-o-k-aachi-k-a]
tree PL=**cut.ACT**-PST house IRR-SUP-fall:LG-NEG-NEG-FUT-COMP-DS
'They cut down the tree so it wouldn't fall on the house.' (F_10-09-18)

b. *Iti yat tapatok chokka ik on ittólokách ho.*
tii-yat **tapa**-tok [chokka ik-on-ittóol-o-k-aachi-h-o]
tree-NOM **cut.NACT**-PST house IRR-SUP-fall:LG-NEG-NEG-FUT-TNS-DS
'The tree was cut down so it wouldn't fall on the house.' (F_10-09-18)

(149) ***awashli/alwasha* 'fry' (ACT/NACT)**

a. *Nipi awashlilitok alla alhíha nayoppachílách hósh.*
nípi **awashli**-li-tok [alla alhiiha nayoppa-chii-l-aachi-h-oosh]
meat **fry.ACT**-1SG.ERG-PST child PL happy-CAUS-1SG.ERG-FUT-TNS-SS
'I fried the meat to make the kids happy.' (F_10-09-18_27)

b. *Nipit alwashatok alla alhíha nayoppachách<u>i</u> h<u>o</u>.*
Nípi-t **alwasha**-tok [alla alhiiha nayoppa-ch-aach<u>i</u>-h-<u>o</u>].
meat-NOM **fry.NACT**-PST child PL happy-CAUS-FUT-TNS-DS
'The meat was fried to make the kids happy.' (F_10-09-18_28)

Some other non-active verbs, however, consistently *fail* to license purpose clauses—this class is comprised of inchoative non-actives, by the classification in (137). The non-active form in the (b) examples in (150-151) fails to provide an implicit agent, and thus the purpose clause sounds strange.

(150) ***bokaffi*/*bokaafa* 'burst' (ACT/NACT)**

a. [Alla nokshoobl-aach<u>i</u>-h-<u>o</u>] tóowa-m-<u>a</u> **bokaffi**-tok
child scare.ACT-FUT-TNS-DS ball-DEM-OBL **burst.ACT**-PST
'To scare the child, she burst the ball.' (E_10-21-18, judgment)

b. #[Alla nokshoobl-aach<u>i</u>-h-<u>o</u>] tóowa-yat **bokaafa**-tok.
child scare.ACT-FUT-TNS-DS ball-NOM **burst.NACT**-PST
'To the scare the child, the ball burst.' (E_10-21-18, judgment)

(151) ***kooli*/*koowa* 'smash' (ACT/NACT)**

a. Kocha aapísa **kooli**-tok [naa h<u>o</u>kop-aach<u>i</u>-h-oosh].
outside window **smash.ACT**-PST thing steal-FUT-TNS-SS
'She smashed the window to steal stuff.' (F_10-09-18, judgment)

b. #Kocha aapisa-at **koowa**-tok [iskali h<u>o</u>kop-aach<u>i</u>-h-<u>o</u>].
outside window-NOM **smash.NACT**-PST money steal-FUT-TNS-DS
'The window smashed to steal the money.' (F_10-09-18, judgment)

(152) ***shilaachi*/*shila* 'dry' (ACT/NACT)**

a. *Abíka m<u>a</u> abilách<u>i</u> k<u>a</u> nipi m<u>a</u> shiláchilitok.*
[abíikaa-m-<u>a</u> abii-l-aach<u>i</u>-k-<u>a</u>] nípii-m-<u>a</u> shilaachi-li-tok
disease-DEM-OBL kill-1SG.ERG-FUT-COMP-DS meat-DEM-OBL dry.ACT-1SG.ERG-PST
'I dried the meat to kill diseases.' (E_10-21-18_37)

b. #[Abíika-m-<u>a</u> ab-aach<u>i</u>-k-<u>a</u>] nípii-m-at shilaa-tok.
disease-DEM-OBL kill-FUT-COMP-DS meat-DEM-OBL dry.NACT-PST
'The meat dried to kill diseases.' (E_10-21-18, judgment)

(153) ***kobaffi*/*kobaafa* 'break' (ACT/NACT)**

a. *Iti m<u>a</u> ossit kobaffilitok car fokkalách<u>i</u>h<u>o</u>.*
Itii-m-<u>a</u> ossi-t kobaffi-li-tok [car fokka-l-aach<u>i</u>-h-<u>o</u>].
tree-DEM-OBL small-PTCP break.ACT-1SG.ERG-PST car put.in-1SG.ERG-FUT-TNS-DS
'I broke the wood into small pieces so I could get it into the car.' (E_10-21-18_22)

b. #Itii-m-at kobaafa-tok [car fokka-l-aach<u>i</u>-h-<u>o</u>].
tree-DEM-NOM break.NACT-PST car put.in-1SG.ERG-FUT-TNS-DS
'The wood broke apart so I could get it into the car.' (E_10-21-18, judgment)

Having seen that only a subset of non-active verbs—lexical passives and mediopassives—license purpose clauses, let us now turn to rationale clauses, which are licensed by the same set of non-active verbs.

3.7.2 Licensing rationale clauses

Rationale clauses are adjoined clauses that provide a motivation for the actions of some individual. They have essentially the same distribution as purpose clauses, in that they too rely on the presence of an agent, either syntactically-projected or implicit, in the matrix clause they are adjoined to. This is demonstrated with the English examples in (154).[57]

(154) **English: rationale clauses licensed only in presence of agent**

a. I closed the door [because it was cold]. (overt agent)

b. The door was closed [because it was cold]. (implicit agent)

c. #The door closed [because it was cold]. (no agent)

Note that not all English 'because'-clauses are rationale clauses, however. 'Because' is also used to provide explanations that do not involve human motivation, and these do not require an agent to be licensed:

(155) The door closed [because the wind blew it].

Rationale clauses in Choctaw generally take the complementizer *-(aa)tok* 'because' followed by a *-oosh*/*-o̲* switch-reference marker (see Broadwell 2006:290–292 for discussion). Some examples are given in (156).

(156) **Rationale clauses**

a. [Tákkon-at a̲-lawa-h-aatok-oosh] páska=cha̲póli ikbi-l-aachi̲-h.
apple-NOM 1SG.DAT-many-TNS-because-SS pie make-1SG.ERG-FUT-TNS
'Because I have a lot of apples, I'm going to make a pie.' (Broadwell 2006:290)

b. *Illi̲pat áta̲pa hátoko̲ i̲pa kat áta̲blilitok.*
[illípa-t aatápa-h-aatok-o̲] i̲pa-k-at aatábli-li-tok
food-NOM too.much.NACT:NG-TNS-because-DS eat-COMP-SS too.much.ACT:NG-1SG.ERG-PST
'There was a lot of food so I ate too much.' (A_10-25-18_51)

Turning to non-active verbs, the same non-active verbs that license purpose clauses (lexical passives and mediopassives, by the classification in (137)) tend also to license rationale clauses. Some active/non-active pairs, where both members of the pair licenses a rationale clause, are given in (157-158).

57. Just as with the purpose clause in (143c), the rationale clause in (154c) can be made acceptable in the right context, such as one where the door is automatic, and is configured to close by itself in response to a low temperature.

(157) ***icholi/ichowa* 'write'/'be written'**

a. holisso **icholi**-li-tok, [alla tiik-m-a im-isht=ilaawata
paper **write.ACT**-1SG.ERG-PST child girl-DEM-OBL DAT-INSTR=brag
sa-nna-tok-oosh]
1SG.ABS-want-because/PST-SS]
'I wrote the poem because I wanted to impress a girl.' (A_10-24-18, judgment)

b. *Holisso chito moma kat ichowah ohóyo alhíha okla im isht iláwata banna hátoko.*
holisso chíto móma-k-at **ichowa**-h, [ohooyo alhiiha okla=im-isht=ilaawata
paper big all:NG-COMP-NOM **write.NACT**-TNS, woman group PL=DAT-INSTR=brag
banna-h-aatok-o]
want-TNS-because-DS
'All books are written because people want to impress women.' (A_10-24-18_22)

(158) ***yokaachi/yoka* 'catch'/'be caught'**

a. *Hattak alhíha okla yokáchitok, DA achokmáli banna hátoko.*
hattak alhiiha okla=**yokaachi**-tok, [DA achokmaali banna-h-aatok-o]
man PL PL=**catch.ACT**-PST DA make.good want-TNS-because-DS
'They arrested the men because they wanted to make the DA look good.' (A_10-24-18_27)

b. Hattak alhiiha-yat **yokaa**-tok, [DA achokmaali banna-h-aatok-o].
man PL-NOM **catch.NACT**-PST DA make.good want-TNS-because-DS
'The men were arrested because they wanted to make the DA look good.'
(A_10-24-18, judgment)

(159) ***chokcholi/chokchowa* 'tickle'/'be tickled'**

a. Allosi-m-a ii-**chokcholi**-tok [yoppa-chi pi-nna-h-aatok-o].
baby-DEM-OBL 1PL.ERG-**tickle.ACT**-PST laugh-CAUS 1PL.ABS-want-TNS-because-DS
'We tickled the baby because we were trying to make it laugh.' (E_10-21-18, judgment)

b. Allosi-m-at **chokchowa**-tok [yoppa-chi pi-nna-h-aatok-o].
baby-DEM-NOM **tickle.NACT**-PST laugh-CAUS 1PL.ABS-want-TNS-because-DS
'The baby was tickled because we were trying to make it laugh.' (E_10-21-18, judgment)

(160) ***achiifa/ahchifa* 'clean'/'become clean'**

a. achi achiifa-li-tok [showa-t hikii-t iya-tok-o]
blanket clean.ACT-1SG.ERG-PST smell-PTCP stand-PTCP go-because/PST-DS
'I washed the blanket because it had started to smell.' (B_10-15-19b, judgment)

b. *Achi ahchifatok showat hikít iyatoko.*
achi ahchifaa-tok [showa-t hikii-t iya-tok-o]
blanket clean.NACT smell-PTCP stand-PTCP go-because/PST-DS
'The blanket was washed because it had started to smell.' (B_10-15-19b_11)

Lexical passive and mediopassive non-active verbs contrast with the class of inchoative non-active verbs, which do *not* license rationale clauses. Some active/non-active pairs, where the non-active alternant fails to license a rationale clause, are given in (161-163).

(161) ***akammi*/*alhkama* 'close' (tr./intr.)**

a. *Kapassa hátok<u>o</u> okissa m<u>a</u> okla akammitok.*
[kapassa-h-aatok-<u>o</u>] okíssa-m-<u>a</u> okla=**akammi**-tok
cold-TNS-because-DS door-DEM-OBL PL=**close.ACT**-PST
'Because it was cold, they closed the door.' (D_10-13-18_15)

b. #[Kapassa-h-aatok-<u>o</u>] okíssa-m-at **alhkama**-tok.
cold-TNS-because-DS door-DEM-NOM **close.NACT**-PST
'Because it was cold, the door closed.' (D_10-13-18)

(162) ***kooli*/*koowa* 'smash' (tr./intr.)**

a. [Okla=kochch-ahii-kiyo-aatok-<u>o</u>] aapisa **kooli**-li-tok
PL=go.out-MOD-not-because-DS window **smash.ACT**-1SG.ERG-PST
'Because they couldn't get out, I smashed the window.' (E_10-21-18, judgment)

b. #[Okla=kochch-ahii-kiyo-aatok-<u>o</u>] aapisa-yat **koowa**-tok.
PL=go.out-MOD-not-because-DS window-NOM **smash.NACT**-PST
'Because they couldn't get out, the window smashed.' (E_10-21-18, judgment)

(163) ***towwi*/*towa* 'open' (ACT/NACT)**

a. *<u>A</u>kit <u>i</u> lashpana ápisa towwilitok.*
[<u>a</u>-ki-t <u>i</u>-láshpa-na] aapisa towwi-li-tok
1SG.DAT-father-NOM DAT-hot:LG-and.DS window open.ACT-1SG.ERG-PST
'My father was hot so I opened the window.' (E_10-10-18_33)

b. #[<u>A</u>-ki-t <u>i</u>-láshpa-na] aapisa towa-tok.
1SG.DAT-father-NOM DAT-hot:LG-and.DS window open.NACT-PST
'My father was hot so the window opened.' (E_10-10-18, judgment)

To summarize this section, we have seen that rationale clauses, like purpose clauses, are only licensed by a subset of non-active verbs.[58] I have proposed that this split is a result of the fact that only some, but not all, non-active verbs supply the (implicit) agent that rationale clauses require. Specifically, only lexical passive and mediopassive non-actives may introduce the necessary implicit agent. Inchoative non-actives do not. In the next two sections, I provide two tests for the *absence* of an implicit agent in non-active verbs. These tests are passed by inchoatives and mediopassives, but are failed by lexical passives.

3.7.3 Licensing *ilaap* 'by itself'

Various authors have noted that certain phrases, like '(all) by itself' or 'of its own accord', are licensed only in the absence of an agent (Chierchia 1989/2004, Koontz-Garboden 2009). This is illustrated by the English

58. The Choctaw speakers I consulted would sometimes reject sentences featuring a rationale clause or purpose clauses alongside a non-active, even when the other diagnostics might lead me to believe that the verb introduces an implicit agent. I believe this an artefact of my limited grasp of idiomatic Choctaw speech. The elicitation technique used here requires the construction of relatively natural, plausible, complex sentences which is difficult for beginner learners such as myself. I am very grateful to the Choctaw consultants who would help me craft complex sentences like the ones used here and throughout the dissertation.

examples in (164).

(164) **English: *by itself* licensed only in absence of agent**

a. The window closed all by itself. (no agent)

b. *The window was closed all by itself. (implicit agent)

c. *I closed the window all by itself (overt agent)

Therefore if a similar phrase can be identified in the language under investigation, the (in)ability to use this phrase serves as a diagnostic for the presence vs. absence of an implicit agent.

The phrase that serves this purpose in Choctaw is *ilaap*, which can also function as a demonstrative and a reflexive pronoun (Broadwell 2006:100-102). (165) shows some inchoative non-active verbs being successfully modified by *ilaap*. Note also that *ilaap* may sport participial suffixes, indicating that some forms of *ilaap* may be verbal.[59]

(165) **Inchoative non-actives license *ilaap***

a. *Himak nittak lashpa hátok̲o bálokka at iláp shilách̲ih.*
himak nittak lashpa-h-aatok-o̲ baalokka-at **ilaap** shil-aach̲i-h
now day hot-TNS-because-DS pants-NOM **itself** dry.NACT-FUT-TNS
'Because it is hot today, the pants will dry by themselves.' (E_10-10-18_18)

b. *Okkisa mat iláp tiwatok.*
okkísaa-m-at **ilaap** tiwa-tok
door-DEM-NOM **itself** open.NACT-PST
'The door opened by itself.' (C_01-30-18_105)

c. *Iláp ak̲it kobáfatok.*
ilaap-ak̲i-t kobaafa-tok
itself-indeed-PTCP break.NACT-PST
'The stick broke by itself.' (A_10-24-18_2)

d. *Ápisat iláp illat alhkamatok.*
aapisa-t **ilaap**-illa-t alhkama-tok
window-NOM **itself**-only-PTCP close.NACT-PST
'The window closed all by itself.' (A_10-16-18_100)

These non-active verbs have been shown to be inchoative by virtue of the fact that they *reject* purpose and/or rationale clauses—for *shila* 'dry' see (152b), for *tiwa* 'open' see (163b), for *kobaafa* 'break' see (153b) and for *alhkama* 'close' see (161b). This also serves to demonstrate the robustness of the diagnostic.

By contrast, non-active verbs with lexical passive interpretations will mostly reject *ilaap*, as in (166).[60]

59. Following a suggestion by Aaron Broadwell (p.c.), it is possible that the 'participle-like' forms of *ilaap*, e.g. *ilaap̲it*, may be participial forms of a verb meaning 'do to oneself' or 'happen by itself'. Suffixless *ilaap* cannot be analyzed as verbal, however, since verb stems in Choctaw uniformly end in vowels.

60. It is unclear how well the 'by itself' test works with animate subjects, as in (i). See Koontz-Garboden (2009), Horvath and Siloni (2011) for discussion.

(i) ??The king worsened by himself.

(166) **Lexical passive non-actives do not license *ilaap***

a. #Ilaap famaa-tok.
self whip.NACT-TNS
'He was whipped by himself.' (A_10-24-18, judgment)

b. #Ilaap taptowa-h.
self chop.ACT-TNS
'It was chopped up by itself.' (A_10-24-18, judgment)

Finally, mediopassive non-actives will generally permit *ilaap*, as shown by the examples in (167). This stems from their ability to introduce *or* fail to introduce an implicit agent, as the context demands.

(167) **Mediopassive non-actives license *ilaap***

a. *Akakoshi car apakna bólina iláp alwashatok.*
akakoshi car apakna bóoli-na **ilaap** **alwasha**-tok
egg car top put:LG-and.DS **self** **fry.NACT**-PST
'She put the egg on top of the car and it fried by itself.' (E_10-10-18_16)

b. *Na chippashi achífa chinna kiyoh, iláp ahchifáchínih.*
ná chi-ppashi achiifa chi-nna-kiyo-h, **ilaap** **ahchif**-aachiini-h
NPI 2SG.ABS-hair clean.ACT 2SG.ABS-want-not-TNS **itself** **clean.NACT**-FUT-TNS
'You don't need to clean your hair, it becomes clean by itself!'
(E_10-10-18_24, E_10-10-18_25)

For evidence that these verbs may also introduce an implicit agent, see (149b) for *alwasha* 'fry' and (160b) for *ahchifa* 'be/become clean'.[61]

3.7.4 Licensing 'success-with-difficulty' readings when a dative object is added

Beneficiaries cannot generally be coreferential with semantically-projected implicit agents—that is, they show obligatory *disjoint reference*. The sentences in (168) illustrate this for English.[62]

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61. It appears as though virtually any non-active verb is able to license *ilaap* under sentential negation—that is, in a sentence that expresses the impossibility of the event happening 'by itself':

(i) ***Ilaap* licensed in non-actives with implicit agent, when sentential negation present**

a. *Kana hat nipi pa taptolit tahlitok, ilápit taptowatok kiyoh.*
kánah-at nípi-p-a taptoli-t tahli-tok, ilaap-it taptowa-tok kiyo-h
someone-NOM meat-this-OBL chop.ACT-PTCP finish.ACT-PST self-PTCP chop.NACT not-TNS
'Someone cut up this meat, it wasn't cut up by itself.' (A_10-24-18_6)

b. *Kana hat icholitok pailápit ichowatok kiyoh.*
kánah-at icholi-tok p-a, ilaap-it ichowa-tok kiyo-h
someone-NOM write.ACT-PST this-OBL self-PTCP write.NACT-PST not-TNS
'Someone wrote this, it wasn't written by itself.' (A_10-24-18_4)

This property *ilaap* has in common with English 'by itself', as shown by the relative felicity of the translations in (i). As such, I do not consider these data problematic for the test itself.

62. The only way to get the coreferential interpretation is to put a reflexive pronoun in the *for*-phrase, e.g. *the door was opened (by me) for myself, and no-one else.*

(168) **English: disjoint reference effect with passives**

a. The door was opened for Mary. (Mary ≠ opener)

b. The knot was loosened for me. (me ≠ loosener)

However, where there is no semantically-projected implicit agent, a beneficiary argument *can* be construed as the one responsible for bringing about the event, via world knowledge. The contexts in (169) facilitate the so-called 'success-with-difficulty' reading, in which the beneficiary is understood as bringer-about of the event but is *not* present in the semantics. See Schäfer (2007, 2008) for discussion.

(169) **English: disjoint reference effect fails to hold with inchoatives**

a. *Mary had been struggling with the jammed door all day. And with one final push…*
It finally opened for her. (Mary = opener)

b. *I had been trying to loosen the knot all day. After one final tug…*
It finally loosened for me. (me = loosener)

The availability of a success-with-difficulty reading can therefore be used to diagnose the presence vs. absence of an implicit agent—if one is available, as in (169), then there is no implicit agent. If such a reading is impossible, then there may be an implicit agent.

In Choctaw, it is relatively easy to construct a success-with-difficulty context for inchoative and mediopassive verbs. Consider the examples in (170), featuring the inchoative non-active verbs *kochoofa* 'bend' and *tiwa* 'open'.

(170) **Success-with-difficulty readings of inchoatives**

a. Kánah-at móyyo̲ma-t tali-p-a̲ **kochoffi** bánna-sh má̲ya-na
someone-NOM all:YG-PTCP metal-DEM-OBL **bend.ACT** want:LG-SS be.PL:LG-and.DS
shohbi-kak-o̲, pola̲ka Katie-ano i̲-**kochoofa**-h.
all.day-although-DS finally Katie-OBL.CONTR DAT-**bend.NACT**-TNS
'People had been trying to bend this piece of metal all day, but it finally bent for Katie.'
(A_10-18-18, judgment)

b. Kánah-at okíssa **tiwwi** bánna-sh má̲ya-na himak-ak-ak-o̲,
someone-NOM door **open.ACT** want:LG-SS be.PL:LG-and.DS now-FOC-FOC-OBL.SP
Katie-ano i̲-**tiwaa**-tok.
Katie-OBL.CONTR DAT-**open.NACT**-PST
'People had been trying to open the door for ages, but now it finally opened for Katie.'
(A_10-18-18, judgment)

Contrast these verbs with lexical passives like in (171), where the beneficiary argument *cannot* be coreferential with the individual(s) responsible for bringing about the event. We can understand this as a consequence of the presence of an implicit agent.

(171) **Success-with-difficulty reading not accessible with lexical passive**

#Kátit chi-tapa-to-kak-o, an-aano **a-tapa**-tok.
how 2SG.DAT-cut.NACT-PST-although-DS me-OBL.CONTR **1SG.DAT-cut.NACT**-PST
(intended: 'Why didn't it cut for you? It cut for me.')
actual: 'Why didn't yours get cut? Mine got cut.' (B_10-16-19a, judgment)

And finally, as we would expect, a mediopassive non-active verb like *alwasha* 'fry'/'be fried' will license a success-with-difficulty reading, as shown in (172). This is because mediopassive non-actives always have the option of *not* introducing an implicit agent.

(172) **Success-with-difficulty reading of mediopassive**

Anáno akakoshit am alwashah nanit kiyoh, chishnáno katina akakoshit chim álapálih.
an-aano akakoshi-t **am-alwasha**-h náni-t kiyo-h,
me-OBL.CONTR egg-NOM **1SG.DAT-fry.NACT**-TNS somehow-PTCP not-TNSyou-OBL.CONTR
chishn-aano katina akakoshi-t chim-aa-lapaali-h
why egg-NOM 2SG.DAT-LOC-stick-TNS
'The eggs are frying for me no problem, why are they sticking for you?' (B_10-15-19a_58)

3.7.5 Summary of tests for implicit agent and results

In this section I have outlined two tests that determine whether a verb may have with an implicit agent, shown in (173), and two tests that determine whether a verb can *lack* an implicit agent, shown in (174).

(173) **Tests for the presence of an agent**

a. Only verbs with agents can license purpose clauses.
b. Only verbs with agents can license rationale clauses.

(174) **Tests for the absence of an agent**

a. Only verbs without agents can license *ilaap* 'by itself'.
b. Only verbs without agents are possible in 'success-with-difficulty' contexts.

I have shown that there are three classes of non-active verb. Repeated from (137), they are (i) *lexical passives*, which pass the tests for an implicit agent and fail those for the absence of an implicit agent; (ii) *inchoatives*, which fail the tests for an implicit agent and pass the tests for the absence of an implicit agent; and (iii) *mediopassives*, which pass the tests for both the presence and the absence of an implicit agent.[63]

It is worth noting at this point that there is one diagnostic that is frequently used to identify implicit agents in languages such as English, but which does not work in quite the same way in Choctaw. In En-

63. We might be able to add to this list another argument for the presence of an implicit agent: clitic choice. I believe that non-active verbs with lexical passive interpretations must index their subject with an ABS clitic, as in (i.a). Conversely, non-active verbs with inchoative interpretations may index their subject with either an ERG clitic or an ABS clitic, as in (i.b).

glish, instrument phrases are licensed by passives, which have an implicit agent, but are not licensed by unaccusatives, as shown in (175) (from Bruening 2013).

(175) **English: instrument phrases require agent**

a. The enemy sank the ship with a torpedo. (overt agent)

b. The ship was sunk with a torpedo. (implicit agent)

c. *The ship sunk with a torpedo. (no agent)

However, in Choctaw, even those verbs which appear to *not* have implicit agents allow an instrument phrase to appear, via the (quasi-)applicative morpheme *ish(i)t-*. Some examples are provided in (176).

(176) **Choctaw: instrument phrases are possible with inchoative non-active verbs**

a. Balloon-m-at chofak ishit=**bokaafa**-tok.
balloon-DEM-NOM nail INSTR=**burst.NACT**-PST
'The balloon (?was) burst with a nail.' (D_10-19-18, judgment)

b. *Bálokka mat ibbak ishit lhiláfatok.*
baalokkaa-m-at ibbak ishit=**lhilaafa**-tok
pants-DEM-NOM hand INSTR=**rip.NACT**-PST
'The pants (?were) torn by hand.' (A_10-24-18_50)

c. *Okkisa mat key ishit towatok.*
okkísaa-m-at key ishit=**towa**-tok
door-DEM-NOM key INSTR=**open.NACT**-PST
'The door (?was) opened with a key.' (I_01-31-18_143)

There are multiple plausible explanations for why non-agentive non-active verbs license instruments (see e.g. Alexiadou and Anagnostopoulou 2009 on the same phenomenon in Greek). I leave this issue for future research.[64]

In the remainder of this section, I extend the discussion of Choctaw non-active voice morphology and interpretation presented thus far. §3.7.6 notes some important quirks of the morphology of non-active verbs, and §3.7.7 provides an account of non-actives which have reflexive and body-action interpretations, arguing

(i) **Inchoatives and non-actives differ in preferred subject clitic**

a. *Chi fámatok̲o̲?*
chi- faama-tok-o̲
2SG.**ABS**-whip.NACT-PST-Q
'Were you whipped?' (A_10-16-18_119)

b. *Kat̲ina ish kochófahí kiyoh?*
kát̲ina **ish**- kochoof-ahii-kiyo-h
why 2SG.**ERG**-bend.NACT-MOD-not-TNS
'Why won't you bend?' (B_10-15-19b_90)

Unfortunately I was not able to test this more extensively. If the pattern does turn out to hold, it could have some quite big repercussions for the analysis of how clitic choice interacts with verb meaning that I put forward in this chapter and chapter 4.

64. It would also be interesting to know how comitative phrases, which are sometimes used as a diagnostic for the presence of an agent (Bruening 2013), behave with respect to the different flavors of non-active verb. Comitatives in Choctaw are expressed by a special applicative morpheme *-ibaa*—see chapter 5.

that they require a special carve-out in the syntax-semantics mapping discussed so far.

3.7.6 The morphology of non-actives

In the introduction to this chapter, I proposed the VI rule in (177) for the specifierless head Voice$_{[-N]}$ (repeated from (133)).

(177) Voice$_{[-N]}$ ↔ *-a*

This accounts for the morphology of non-active verbs that are formed with a suffix *-a* appended to the root, as in (178a). But as noted by Nicklas (1974:51) and Ulrich (1986), non-active verbs can be formed in other ways, shown in (178b-e).[65]

(178) **Ways of forming non-actives**

a. Suffix *-a*

bash-li-h	she cut it
*bash-**a**-h*	it was cut

b. Suffix *-li*

shalaa-chi-h	she dragged him
*shalal-**li**-h*	he slipped

c. Ø

apissa-li-h	she straightened it
*apissa-**Ø**-h*	it is straight/it straightened

d. Suffix *-a* + infix *<l>*

awash-li-h	she fried it
*a-**l**-wash-**a**-h*	it (was) fried

e. Infix *<l>*

hochiifo-h	she named him
*ho-**h**-chifo-h*	he was named

For now I set aside two morphological classes of non-actives. Firstly, there are those like (178b) which are formed with a suffix *-li*, which I have argued throughout this chapter to be the exponent of a separate Voice head Voice$_{[\ ]}$. Secondly, there are those like (178c) which are formed by zero-derivation of the root—I return to them in the conclusion, §3.9.1, where I argue that they too do not make use of the usual non-active head Voice$_{[-N]}$. Beyond these, there is really only one additional exponent of non-active voice: infixed *<l>*. This morpheme is found only with roots whose first syllable is *a-* or *ho-*, and it undergoes voicing assimilation to a following consonant (and becomes *h* before *h* and *ch*). It may appear alongside *-a* (as in (178d)), or without *-a* (as in (178e)).

65. Byington (1870:345) takes a gloomier perspective, stating "the passive [non-active] is formed so variously that rules are not attempted".

I analyze infixed <*l*> as the realization of a dissociated node 'L' inserted prior to Vocabulary Insertion in the context of certain roots, as per the rule of *Dissociated Node Insertion* in (179) (Embick and Noyer 2007, Rolle 2020, Choi and Harley 2019). L is realized as infixed <*l*> in all contexts, as per the VI rule in (180a). In the context of certain roots, $\text{Voice}_{[\text{-N}]}$ is realized as -Ø, as per the VI rule in (180b).[66]

(179) **DNI rule inserting L at $\text{Voice}_{[\text{-N}]}$ with certain roots**

$\text{Voice}_{[\text{-N}]} \rightarrow$ [$\text{Voice}_{[\text{-N}]}$ [L $\text{Voice}_{[\text{-N}]}$]] / $\{\sqrt{\text{AWASH}}, \sqrt{\text{HOCHIFO}}, \ldots\}$ v _

(180) **Vocabulary Insertion rules realizing non-active**

a. L ↔ <*l*>

b. $\text{Voice}_{[\text{-N}]}$ ↔ Ø / $\{\sqrt{\text{HOCHIFO}}, \ldots\}$ v _

I do not elaborate on how the infixation shorthanded in (180a) is implemented formally—see Kastner (2016, 2019), Kastner and Tucker (2019) for approaches to non-concatenative morphology in DM.

The analysis proposed here is theoretically consequential. By proposing that each of the realizations of non-active voice in (178a-c) is an allomorph of the same underlying head $\text{Voice}_{[\text{-N}]}$, which *also* has multiple possible contextually-determined interpretations (cf. §3.7), we reduce the need for redundancy across modules. I refer the reader to §3.2.2, and chapter 7, for discussion of how the proposal here interacts with redundancy at the syntax-semantics and syntax-morphology interface.

3.7.7 Reflexive and body-action interpretations of non-actives

I have focused in this chapter on two interpretations of non-active verbs: when there is an implicit agent, and when there is not. However, there is at least one other interpretation of non-active morphology: reflexive, with a subcategory 'body-action'. Some active/non-active pairs where the non-active has a reflexive or body-action interpretation are given in (181). Note that in the case of *filiimah* and *fohoopah*, each of these non-active verbs *also* has an inchoative interpretation of the type we have looked at so far. The reflexive interpretation is bolded.

(181) **Alternating verbs where the non-active has a reflexive/body-action interpretation**

a.	*lohm-i-h*	she hid it
	lom-a-h	she hid herself
b.	*katab-li-h*	she blocked it (with something)
	kataap-a-h	she got in the way

66. An alternative analysis would be that infixed <*l*> is the realization of v in the presence of $\text{Voice}_{[\text{-N}]}$ and certain roots. I can't see that either analysis is better than the other.

c. *filim-mi-h* — she rolled it over
filiim-a-h — it rolled over/**she turned her head**

d. *wakii-li-h* — she lifted it up
wakaay-a-h — she stood up

e. *fohob-li-h* — she emptied it out
fohoop-a-h — it spilled out/**she piled on**

Reflexive and body-action interpretations are commonly expressed with the same morphology as passives and inchoatives in the languages of the world (Haspelmath 1987, Kemmer 1993, Klaiman 1991, Lekakou 2005, Alexiadou and Doron 2012), and there have been proposals to formally unify them (e.g. Kallulli 2006, Koontz-Garboden 2009). Reflexive/body-action verbs in Choctaw, however, display an interestingly different syntactic behavior from their inchoative, passive and mediopassive counterparts: they obligatorily index their subject with ERG clitics, rather than ABS clitics (cf. Broadwell 2006:126). This is illustrated by the examples in (182).

(182) **Reflexive/body-action non-actives take ERG subjects**

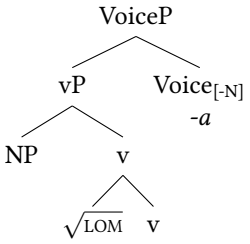
a. *Il o̲ fohópat tahah.*
il-o̲-fohoopa-t taha-h
1PL.ERG-SUP-pile.on.NACT-PTCP finish.NACT-TNS
'We all piled on.' (F_10-25-18_9)

b. *Ish filímanna!*
ish-filiima-nna
2SG.ERG-roll.NACT-NEG.IMP
'Don't turn your head!' (A_10-16-18_110)

c. *Íyat o̲t lomálitok.*
iiya-t o̲t lomaa-**li**-tok
go-PTCP go.and hide.NACT-**1SG.ERG**-PST
'I went and hid.' (F_10-25-18_1)

This is consistent with the intuition that the subjects of these reflexive and body-action verbs are agents, and that agents are always indexed by ERG clitics (see chapter 4). But how does this fit into the formal system established so far? I have argued that non-active verbs that end in *-a* are formed by combining a root with an *obligatorily-specifierless* head Voice$_{[-N]}$, whose exponent is the *-a* we see. So the VoiceP structure of *loma* 'she hid (herself)' should be as in (183). And, as we have seen in this chapter, the subjects of non-active verbs are *generally* indexed by ABS rather than ERG clitics (see also chapter 4).

(183) **Structure of reflexive/body-action non-active**



Here, I provide a sketch of solution, based on the analysis of Greek non-actives ('middles') in Spathas et al. (2015), but it needs to be said that it only solves one part of the problem—namely, how internal arguments can be interpreted as agents. It does *not* solve the issue of why they are indexed by ERG clitics, which I leave open for future work.

The basic idea is that non-active verbs with reflexive interpretations are, indeed, syntactically unaccusative, as in (183)—the lone argument is merged in Spec-vP rather than Spec-VoiceP. At LF, the 'passive' alloseme of $\text{Voice}_{[\text{-N}]}$, which introduces an existentially-bound agent role, is inserted (see §3.7). What's special about reflexive and body-action non-actives is that the usual requirement for implicit arguments to have disjoint reference from syntactically-projected arguments is suspended. In fact, in Choctaw, coreference between the internal argument (the syntactic subject) and the implicit argument (the semantic agent) is mandatory.

Spathas et al. (2015) argue that the suspension of the disjoint-reference requirement is a property of certain 'naturally reflexive' roots (cf. Embick 2004b), which denote actions which are canonically directed inwards towards oneself. They contrast these with 'naturally disjoint' roots, describing actions that are canonically directed outwards towards others. Non-active verbs formed off of these roots generally maintain the disjoint reference requirement. I suggest that something similar is going on with reflexive and body-action non-actives in Choctaw—our knowledge of the event described by the root tells us that it is the kind of event that tends to be self-directed. As such we suspend the disjoint reference requirement. This contrasts with the situation with lexical passives, where our knowledge that the event being described tends to be directed outwards leads us to maintain the disjoint reference requirement.

There are some real difference between the Choctaw and Greek patterns, however, which should give us pause. Firstly, in Greek, non-actives of naturally reflexive roots still allow for the possibility that the implicit agent is disjoint from the theme, as in (184). This shows that the reflexivity of these non-active verbs is a cancellable implicature in Greek.

(184) **Greek: naturally-reflexive non-actives permit disjoint reference**

O Janis pli-thike.
the John.NOM washed-NACT.3SG
'John washed (himself)'/'John was washed.' (Greek, Spathas et al. 2015:1297)

By contrast, for reflexive non-active verbs in Choctaw it is *not* possible for the agent to be disjoint from the theme, even with some help from the context. This is shown by the infelicity of the sentence in (185)—if a disjoint-reference interpretation was permitted, this is a context in which speakers would use it.

(185) **Choctaw: reflexive non-actives do not permit disjoint reference**

#A-sholosh-at loma-h.
1SG.DAT-shoe-NOM hide.NACT-TNS
(intended: 'My shoes were hidden.')
actual: 'My shoes hid (themselves).' (A_10-25-18, judgment)

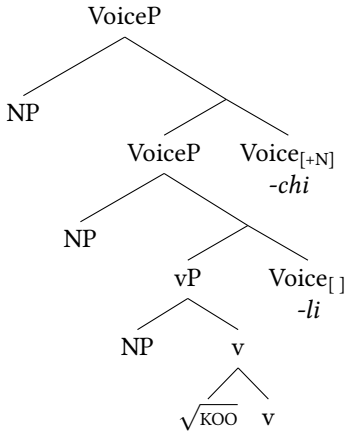
Secondly, the analysis here holds that the subject of reflexive and body-action non-actives is still, syntactically, an internal argument. As stated above, this fails to explain why the subject of these non-actives is indexed by an ERG clitic (cf. (182)), rather than the ABS clitic typical of non-active subjects. Being indexed by an ERG clitic in fact suggests that the subject of reflexive and body-action non-actives is an *external* argument. Ultimately more research needs to be done on non-actives with reflexive and body-action interpretations. In particular, it is important to find out whether they pattern syntactically as non-actives, as their voice morphology would suggest, or as unergatives, as their clitic-doubling properties would suggest.

3.8 Syntactic causatives

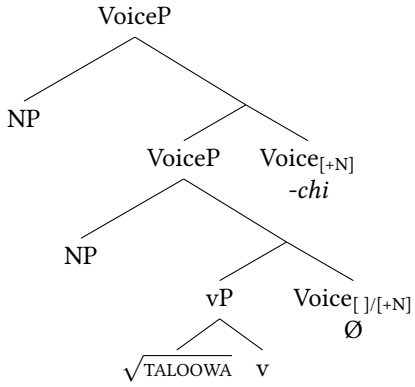
In §3.2.3 I outlined an analysis of syntactic causatives in Choctaw in which they are constructed by stacking a Voice$_{[+N]}$ (*-chi*) head on top of the lexically-selected Voice head. So, for example, a causativized transitive might look as in (186a), and a causativized unergative might look as in (186b).

(186) **Structures of syntactic causatives**

a. *koo-li-chi* 'she made him break it'



b. *taloowa-chi* 'she made him sing'



One crucial component to this analysis is that there is *no* distinct causee-introducing functional structure (e.g. a Causee head heading a 'CauseeP') that replaces the lower Voice head in a syntactic causative configuration. In §3.8.1 I make some morphological and syntactic arguments for this analysis. Another crucial component to the analysis, however, is that the lower Voice head exceptionally *fails* to assign ergative case to its specifier. I provide an implementation of this 'contextual' case-assignment property in §3.8.2. I also consider the possibility that a lower Voice head can only introduce a *causee* role, as distinct from the agent role it might typically introduce.

3.8.1 Evidence for Voice-over-Voice

In this section I argue that Choctaw syntactic causatives are composed by merging a Voice$_{[+N]}$ head (*-chi*) with a VoiceP headed by a root-selected Voice head, as in (186) (following a similar analysis by Nie 2019). I take it to be fairly clear that the causer subject is introduced by a Voice$_{[+N]}$ head—the *-chi* suffix is obligatory with all syntactic causatives, and the subject always receives an agent role. The part that may require further support is the idea that the *lower* Voice head is the 'regular' Voice head associated with the root, as opposed to a causee-introducing functional head (e.g. a Causee head, heading a CauseeP). I offer one argument from morphology and one from syntax.

It is worth noting first that I do not take a position on two (closely-related) matters of relevance to the syntax and semantics of causatives: whether they are truly monoeventive or bieventive (or perhaps composed of a single complex event), and whether there is a syntactically-projected v head between the two Voice heads—I do not write a 'high' v head in any of the trees representing syntactic causatives, owing to a lack of morphological evidence. Nonetheless, in what follows I refer to 'causing events' and 'caused

events' in order to distinguish different scopal positions of applied arguments.[67]

The morphological argument against positing special functional structure for causativized predicates is simply that causativized predicates are morphologically identical to their uncausativized counterparts. Transitive or unergative verbs formed with *-chi*, *-li* or Ø are morphologically unchanged under causativization, as illustrated in (187) (see §3.5.1 for discussion of causativized non-actives, which not all speakers accept as fully natural).

(187) **Causativized verbs retain morphology of non-causativized verb**

a.	*nonaa-chi-h*	he cooked it
	nonaa-chi-chi-h	she made him cook it
b.	*koo-li-h*	he smashed it
	koo-li-chi-h	she made him smash it
c.	*ishko-Ø-h*	he drank it
	ishko-Ø-chi-h	she made him drink it

This contrasts with causativization in various other languages, where the causativized predicate has special or restricted voice morphology. One example comes from Halkomelem Salish, in which only intransitive or antipassive predicates may be causativized, as in (188a-b). (188c) shows that transitive predicates cannot be causativized.

(188) **Halkomelem Salish: verb morphology changes under causativization**

a. niʔ cən ʔiməš-stəx^{w} tθə swiwləs
AUX 1SBJ walk-CAUS.3OBJ DET boy
'I made the boy walk'

b. *niʔ cən q'^{w}əl-ət-stəx^{w} θə słeniʔ (ʔə) tθə səplil
AUX 1SBJ bake-TR-CAUS.3OBJ DET woman OBJ DET bread
('I made the woman bake the bread.')

c. niʔ cən q'^{w}əl-əm-stəx^{w} θə słeniʔ ʔə tθə səplil
AUX 1SBJ bake-ANTIP-CAUS.3OBJ DET woman OBJ DET bread
'I made the woman bake the bread.' (Halkomelem Salish, Gerdts 2004:769 in Nie 2019)

Similarly, Nash (2017) argues that in Georgian, only agentless predicates can be causativized, and that agentive transitive verbs must be detransitivized, with a special detransitiving suffix, before they can be causativized. The fact that we do *not* find such restrictions or special morphology in Choctaw is evidence against the claim that a causee is introduced by a different head from the agent of an unergative or transitive. It is also worth noting that in many languages with morphological causatives, including Georgian and Japanese, the causee argument receives dative case, leading some syntacticians to analyze some causee-

67. One test that would be of relevance here is whether the supposed causing and caused events can have independent temporal modification, but I have not been able to test this (see Ritter and Rosen 1993, 1997, Bjorkman and Cowper 2013, Nie 2019). I do show below that the causing and caused 'events' can be independently modified with beneficiaries and instruments, but it is not clear whether these are truly modifying different events.

introducing functional heads as Appl heads (Jung 2014, Nash 2017). Choctaw causees, by contrast, do not pattern as dative (that is, they are not indexed by DAT clitics), but instead pattern as 'regular' or unmarked objects (indexed by ABS clitics). See §3.8.2 for discussion of how [ERG]-assignment to the Spec-VoiceP is suspended for causees.

Turning now to the syntactic argument for a simple Voice-over-Voice structure, the examples in (189) and (190) show that there are two potential readings when an instrument or beneficiary argument is added to a causative.

(189) **Two readings of instrumental applicative**

Yamm-aash **tabi** **ishit**=sa-noowa-chi-h.
DEM-FOC **stick** **INSTR**=1SG.ABS-walk-CAUS-TNS
'That man made me [walk with a stick].' (he caused me an injury)
'That man [made me walk] with a stick.' (he prodded me with a stick)
(A_01-29-18a_51, judgments)

(190) **Two readings of benefactive applicative**

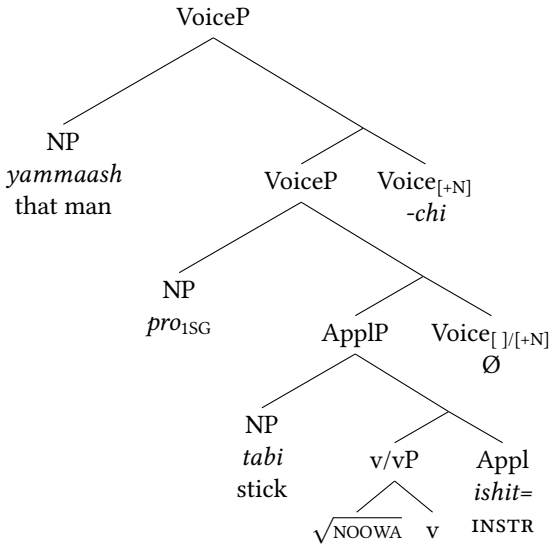
a. Beneficiary of causing event
Chi yayyachilách<u>i</u>nih.
chi-yayya-chi-l-aach<u>i</u>ni-h
2SG.DAT-cry-CAUS-1SG.ERG-FUT-TNS
'For you, I'm going to make him cry.' (A_01-29-18b_1)

b. Beneficiary of caused event
Sashkit sattibápishi i sa pónichitok.
sa-shki-t **sa-ttibaapishi** **i**-sa-pooni-chi-tok
1SG.ABS-mother-NOM **1SG.ABS-sibling** **DAT**-1SG.ABS-cook-CAUS-PST
'My mom made me cook for my brother.' (A_01-29-18a_76)

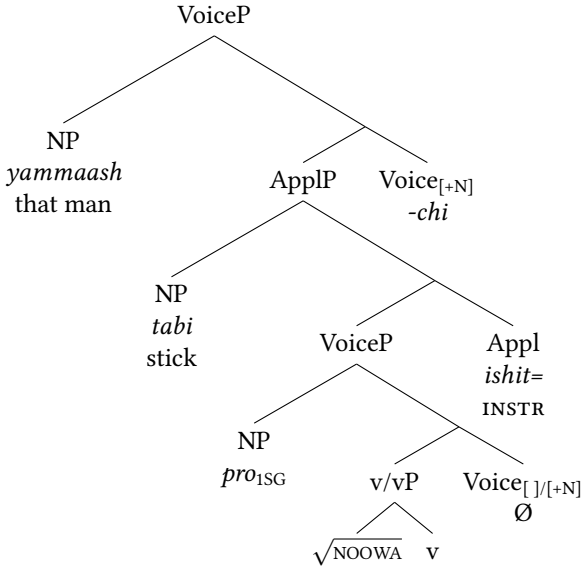
I interpret this ambiguity as showing that there are two possible places in which the Appl head, introducing the beneficiary or instrument, may be merged—in the complement of the lower Voice head as in (191a), in which case it modifies only the caused event, or in the complement of the higher Voice head as in (191b), in which case it modifies the causing event.

(191) **Two positions where instrumental Appl can be merged**

a. Instrument involved in caused event



b. Instrument involved in causing event



The fact that instrumental and benefactive applicatives can be merged in either position points to the upstairs and downstairs argument-introducing heads having, at least, the same selectional properties. This would be expected if they are, in fact, the same head. See chapter 5 for more detailed discussion of dative and applied arguments, and the Appl heads themselves, in Choctaw.[68]

Having outlined the ways in which the external-argument-introducing Voice head remains unchanged under causativization, I now discuss one, and perhaps two, ways in which this head's behavior changes under causativization: it no longer assigns [ERG] to its specifier, and it (potentially) assigns its specifier a

68. It is interesting that external possessor datives have a more restricted distribution. As shown in (i) they can only be interpreted as the possessor of the causee, and never as the possessor of theme.

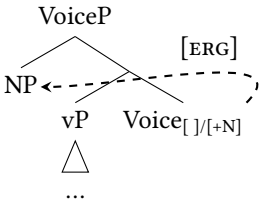
causee rather than than agent role.

3.8.2 Contextual properties of Voice under causativization

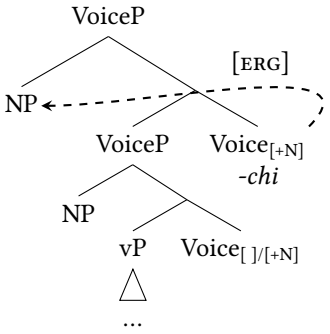
The most notable way in which an external-argument-introducing Voice head—Voice$_{[+N]}$ or Voice$_{[\ ]}$—changes under causativization is that it no longer assigns ergative case to its specifier. Instead, only the higher Voice head, introducing the causer, is able to assign ergative. This difference is schematized in (192) (see chapter 4 for detailed discussion of ergative case assignment).

(192) **Causativization robs lower Voice head of ability to assign [ERG]**

a.



b.



I propose that ergative case-assignment is, like morphological realization or semantic interpretation, a contextual property of Voice heads, rather than an invariant one. By way of implementation, I propose that case-assignment rules may be *contextually-conditioned*, in the same way that morphological operations (such as DNI and VI) and alloseme selection are contextually-conditioned (cf. §1.3.3). Specifically, Voice$_{[\ ]}$ and Voice$_{[+N]}$ will only assign ergative to their specifier *if* they are not in the context of another, adjacent Voice head. The case-assignment rules for these Voice heads are given in (193-194) ((193) is repeated from (35)).[69]

(193) **Contextually-conditioned case assignment rules for Voice$_{[+N]}$**

a. Voice$_{[+N]}$ → Ø (do nothing) / __ Voice

b. Voice$_{[+N]}$ → Assign [ERG]

(i) *Katos iti am aboyyachitok.*
kátos iti **am**-aboyya-chi-tok
cat tree **1SG.DAT**-climb-CAUS-PST
'He made my cat climb the tree.'
(*'He made the cat climb my tree.') (L_06-15-17_125, judgment)

Under the present model, this indicates that external possessor applicatives can only be merged in the complement of the higher voice head in a causative, and not as the complement of the lower (see also Tyler to appear). I have no account of this.

69. The case-assignment rules for Voice$_{[\ ]}$ must *also* be made sensitive to the presence vs. absence of an argument in Spec-VoiceP—see chapter 4.

(194) **Contextually-conditioned case assignment rules for Voice$_{[\ ]}$**

a. Voice$_{[\ ]}$ → Ø (do nothing) / __ Voice

b. Voice$_{[\ ]}$ → Assign [ERG]

This syntactic condition on case-assignment has some precedent. Many ergative case theorists invoke some kind of syntactic 'transitivity condition' in order to constrain the distribution of ergative case (e.g. Woolford 1997, 2006, Legate 2012, Akkuş 2019), and Nie (2017b) invokes a syntactic condition very similar to this one. A workable, near-equivalent alternative to the present proposal would be that ergative case-assignment by Voice is dependent on a particular Agree relation between the Voice head and a higher head (cf. Clem 2019), which is blocked in the event that another Voice head intervenes. Ergative case-assignment is discussed in more detail in chapter 4.

Before finishing this section on syntactic causatives, I wish to mention a remaining way in which an argument-introducing Voice head might contextually vary, depending on whether it is embedded under another Voice head. There is some evidence to suggest that causees do not receive an agent theta-role, and might instead receive a special 'causee' role. The evidence comes from the inability of a causee argument to control PRO, in contrast to an agent argument.

First, note that the subject of a purpose clause in Choctaw may be independent from the subject of the main clause, as in (195), or it may be coreferential with the subject of the main clause, as in (196)—there is no clear analogue to non-finite purpose clauses in Choctaw, and they are all marked either by *-aachi-k{-at/-a}* or by *-aachi-h{-oosh/-o}*.

(195) **Purpose clause with different subject from main clause**

a. *Dollar General ot falámaláchi ka pit awashlih.*
[Dollar General ot falaama-**l**-aachi-k-a] pit awáshli-h
Dollar General go.and return-**1SG.ERG**-FUT-COMP-DS up.to fry.ACT:NG-TNS
'Carry on frying it [so that I can go back to Dollar General].' (D_10-13-18_81)

b. *A kanat im achokmáchika ápisa i towwilitok.*
[**a-kána-t** im-achokm-aachi-k-a] aapisa i-towwi-li-tok
1SG.DAT-friend-NOM DAT-happy-FUT-COMP-DS window DAT-open.ACT-1SG.ERG-PST
'[So that my friend would be happy], I opened a window for him.' (E_10-21-18_11)

(196) **Purpose clause with the same subject as main clause**

a. *Suzie at abóshi i kashófáchi kat kana i payatok.*
[Suzie-at abooshi i-kashoof-aachi-k-at] kána i-paya-tok
Suzie-NOM room DAT-clean.NACT-FUT-COMP-SS someone DAT-call-PST
'[To get her room cleaned], Suzie called somebody.' (A_02-06-18a_92)

b. *Kaníkásh sa libishách<u>i</u> kat ótilitok.*
kánii-kaash [sa-libísh-aachi-k-at] ooti-li-tok
sometime-PREV 1SG.ABS-heat.NACT:NG-FUT-COMP-SS build.fire-1SG.ERG-PST
'The other day I built a fire [to stay warm].' (K_06-16-16_26)

Next, note that when the subject of the purpose clause is coreferential with a 1st/2nd-person subject of the matrix clause, the clitic or agreement affix indexing the subject may optionally be omitted within the purpose clause. This is shown by the examples in (197).

(197) **Agreement/clitic may be omitted on controlled verb in purpose clauses**

a. *Tamáha il íyatok shikalla ch<u>o</u>pách<u>i</u>hósh.*
tamaaha il-iiya-tok [shikalla **ch<u>o</u>p**-aach<u>i</u>-h-oosh]
town 1PL-go-PST bead **buy**-FUT-TNS-SS
'We went to town [to buy beads].' (F_10-09-18_5)

b. *Holosso <u>i</u>ch<u>o</u>lilitok <u>a</u> hattak <u>a</u> yoppachách<u>i</u> k<u>a</u>.*
holosso <u>i</u>ch<u>o</u>li-li-tok [<u>a</u>-hattak-<u>a</u> **yoppa-ch**-aach<u>i</u>-k-<u>a</u>]
note write.ACT-1SG.ERG-PST 1SG.DAT-man-OBL **laugh-CAUS**-FUT-COMP-DS
'I wrote a note [to make my husband laugh].' (B_10-15-19a_7)

I assume that the purpose clauses in (197) have PRO subjects, which must be controlled by an agent (see §2.3.2 for a brief discussion of control and PRO in Choctaw). With this assumption in place, we can use the (in)ability of a particular NP to control PRO in purpose clauses as a diagnostic for the agenthood of that NP. The sentences in (198) show that causees *cannot* control PRO: the subject of the purpose clause must be indexed by an agreement affix or clitic, so we can infer that the subjects of these clauses must be regular pronouns, rather than controlled PRO.

(198) **Agreement/clitic is obligatory when purpose-clause subject corefers with a causee**

a. Sa-tikchi-t car sa-ch<u>o</u>pa-chi-tok [aayittatóoba
1SG.ABS-wife-NOM car 1SG.ABS-buy-CAUS-PST store
im-iiya-***(l)**-aach<u>i</u>-h-<u>o</u>] .
DAT-go-***(1SG.ERG)**-FUT-TNS-DS
'My wife made me buy a car [so I could go to the store for her].' (A_10-18-19b_2, judgment)

b. [***(Ish)**-ili-pis-aach<u>i</u>-h-<u>o</u>] chi-folooli-chi-tok-<u>o</u>?
***(2SG.ERG)**-REFL-see-FUT-TNS-DS 2SG.ABS-turn.ACT-CAUS-PST-Q
'Did he make you turn around [so you could see yourself]?' (A_10-18-19a_13, judgment)

Therefore, if causees have a different thematic status from agents, but are still merged in the specifier of a 'regular' Voice$_{[+N]}$ or Voice$_{[\,]}$ head, we need an additional pair of allosemy rules: perhaps something like those in (199).

(199) **Interpretation rules for lower Voice heads in syntactic causatives**

a. $[\![\ \text{Voice}_{[\ ]}\ ]\!] \leftrightarrow \lambda x.\lambda e.\textsc{causee}(x, e)$ / _ $\text{Voice}_{[+\text{N}]}$

b. $[\![\ \text{Voice}_{[+\text{N}]}\ ]\!] \leftrightarrow \lambda x.\lambda e.\textsc{causee}(x, e)$ / _ $\text{Voice}_{[+\text{N}]}$

This issue requires further investigation, however, since a sensible alternative interpretation of the data in (197-198) is simply that PRO in purpose clauses is strictly subject-oriented, and that causees are prohibited from controlling it not by their thematic role but by their status as non-subjects.

3.9 Conclusion

In this chapter, I have developed of model for how (some) verbs are built in Choctaw, out of roots and a cluster of syntactic functional heads. In particular, I have argued that Choctaw has three Voice heads: $\text{Voice}_{[+\text{N}]}$ (*-chi*), which obligatorily introduces an external argument in its specifier, $\text{Voice}_{[-\text{N}]}$ (*-a*), which disallows a specifier, and $\text{Voice}_{[\ ]}$ (*-li*), which is underspecified with respect to whether or not it takes a specifier. The root and its categorizing head v then specify which, if any, of these Voice heads the vP merges with. The table in (200), repeated from (32), shows various roots and their Voice-selecting properties (including the option of a root selecting *no* Voice head at all, see §3.9.1). Additionally, for those heads which merge with underspecified $\text{Voice}_{[\ ]}$, I also show whether they demand the presence or absence of a specifier, via root-conditioned allosemy (§3.4.1).[70]

70. Recall from §3.1.3 that the suffix *-li* can be added to property-denoting non-actives in a fairly productive pattern, deriving *ossi-li* 'shrink' or *apissa-li* 'straighten', among others. It may therefore not be correct to say that these forms are 'root-selected', although I include them in the table for completeness.

(200) **Co-occurrence possibilities for roots, Voice heads and specifiers**

	no Voice property-denoting	*-a* (Voice$_{[-N]}$) non-active	*-li* (Voice$_{[\ ]}$) non-active/active	*-chi* (Voice$_{[+N]}$) active	cf.
$\sqrt{\text{OSSI}}$	*ossi* 'small'	–	*ossi-li* (+Spec.) 'shrink'	(*ossi-chi*) 'make small'	§3.9.1
$\sqrt{\text{APISSA}}$	*apissa* 'straight'	–	*apissa-li* (+Spec.) 'straighten'	*apissa-chi* 'be focused on'	§3.5.5, §3.9.1
$\sqrt{\text{HAKSI}}$	*haksi* 'drunk/confused'	–	–	*haksi-chi* 'trick'	§3.5.7
??$\sqrt{\text{ITTOL}}$	–	*ittol-a* 'fell'	–	–	
$\sqrt{\text{HAB}}$	–	–	*hab-li* (+Spec.) 'kicked'	–	§3.4
$\sqrt{\text{CHA̲PO}}$	–	–	*cha̲po-li* (-Spec.) 'sweet'	–	§3.4.2
$\sqrt{\text{ATAAPA}}$	–	–	–	*ataapa-chi* 'stopped' (tr.)	3.5.4
$\sqrt{\text{FAM}}$	–	*fam-a* 'was whipped'	*fam-mi* (+Spec.) 'whipped'	–	§3.2.1
$\sqrt{\text{SHALA}}$	–	–	*shalal-li* (-Spec.) 'slipped/slid'	*shalaa-chi* 'dragged'	§3.2.1, §3.5.5
%$\sqrt{\text{LHIPI}}$	–	*lhipiiy-a* 'overturned' (intr.)	%–	*%lhipii-chi* 'overturned' (tr.)	§3.2.1
$\sqrt{\text{APAKFO}}$	–	*apakfoow-a* 'was wrapped'	*apakfoh-li* (+Spec.) 'wrapped/surrounded'	*apakfoo-chi* 'wrapped tightly'	§3.5.5
$\sqrt{\text{KALA}}$ + f [-Pl]	–	*kalaaf-a* 'was scratched'	*kalaf-fi* (+Spec.) 'scratched it'	–	§3.6
$\sqrt{\text{KALA}}$ + h [+Pl]	–	–	*kalah-li* (-Spec.) 'were scratched'	*kalah-chi* 'scratched them'	§3.6

In addition to these vP-selecting Voice heads, Voice$_{[+N]}$ (*-chi*) has the additional ability to select another VoiceP as its complement, resulting in a syntactic causative.

Furthermore, I have argued that roots, in addition to making *syntactic* demands on which Voice heads they can merge with, also condition the interpretation of these Voice heads. For instance, in §3.7 I showed how specifierless Voice$_{[-N]}$ may be interpreted as lexical passive or inchoative, depending on the root, and in §3.5.8 I showed how specifier-requiring Voice$_{[+N]}$ may receive an expletive interpretation, in the presence of certain quantifier roots. The ability of roots to condition the interpretation of their most local Voice head is also what allows them to *indirectly* force Voice$_{[\ ]}$ (*-li*) to take, or not take, a specifier. A table showing the possible interpretations of the Voice heads is provided in (201) (repeated from (37)).

(201) **Allosemes of the Voice heads and their conditioning environments**

	Interpretation	Context	Function
Voice$_{[-N]}$	$\lambda e.\exists x.\textsc{agent}(x,e)$	{$\sqrt{\text{FAM}}$,$\sqrt{\text{AWASH}}$,...} _	lexical passives, mediopassives, reflexives
	Ø	{$\sqrt{\text{TIW}}$,$\sqrt{\text{AWASH}}$,...} _	inchoatives, statives, mediopassives
Voice$_{[\ ]}$	$\lambda x.\lambda e.\textsc{agent}(x,e)$	elsewhere	actives
	$\lambda x.\lambda e.\textsc{causee}(x,e)$	_ Voice$_{[+N]}$	introduces causee in syntactic causatives
	Ø	{$\sqrt{\text{SHALA}}$,$\sqrt{\text{TAKA}}$,v$_{[+Pl]}$,...} _	inchoatives, statives
Voice$_{[+N]}$	$\lambda x.\lambda e.\textsc{agent}(x,e)$	elsewhere	actives, syntactic causatives
	$\lambda x.\lambda e.\textsc{causee}(x,e)$	_ Voice$_{[+N]}$	introduces causee in syntactic causatives
	Ø	{$\sqrt{\text{MO̲MA}}$,...} _	transitive quantifier verbs

Finally, I have proposed that Voice heads, in addition to requiring contextual morphology and contextual

semantics, in addition require contextual case-assignment properties. This proposal is what underlies the discussion in the next chapter, where I argue that specifierless Voice$_{[\text{-N}]}$ and Voice$_{[\ ]}$ may, in the context of certain roots, assign ergative case *downwards* to an internal argument.

In the remainder of this chapter, I discuss those Choctaw verbs with no overt Voice-marking morphology. I argue that *some* of these verbs lack a Voice head entirely.

3.9.1 Zero morphology

Choctaw has a number of verbs with no overt voice-marking morphology. Some unmarked transitive and unergative verbs are given in (202) (I turn to unmarked unaccusatives in a moment).

(202) **Unmarked transitives**

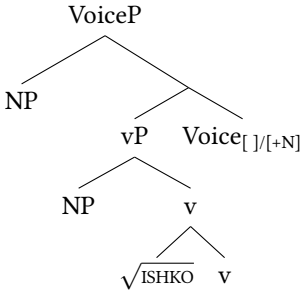
a.	*ishko-h*	she drank it
b.	*ch̲opa-h*	she bought it
c.	*haklo-h*	she heard it
d.	*ikbi-h*	she made it

(203) **Unmarked unergatives**

a.	*taloowa-h*	she sang
b.	*hilha-h*	she danced
c.	*hotilhko-h*	she coughed
d.	*h̲okso-h*	she farted

For unmarked transitives and unergatives, the model of phrase structure adopted in this dissertation forces us to nonetheless posit a morphologically null Voice head, in whose specifier the agent subject of these verbs can be merged and assigned its thematic role. The structure of the unmarked transitive *ishko* 'she drank it' is given in (204).

(204) **Unmarked transitives and ergatives have Ø Voice head**



This structure raises two issues. Firstly, in the absence of any morphological or semantic evidence, how do we know whether the agent-introducing Voice head is Voice$_{[+N]}$ or Voice$_{[\ ]}$? Is there a default, or is the

distinction irrelevant here? I have no answer to this. Secondly, and perhaps more troublingly, the model outlined here fails to capture a generalization about the organization of Choctaw verbs: that virtually all unmarked transitives fail to alternate. That is, there are very few, or zero, roots for which the active is formed with Ø and the non-active is formed with *-a* or *-li*.[71] It is also noteworthy that non-alternating transitives seem to fall into identifiable semantic classes—verbs of perception (*haklo* 'hear', *pisa* 'see') and verbs of ingestion (*apa* 'eat', *ishko* 'drink', *ikkana* 'learn'), for instance, seem uniformly not to alternate (see Broadwell 2006:128). For now, I set aside the question of whether this generalization ought to be encoded in the syntax—that is, do non-alternating transitives (or at least some of them) have a distinct syntactic structure?—or whether it lives solely in the (unstructured) lexicon, and requires only a historical or functional explanation.

In addition to transitives and unergatives with no overt voice-marking morphology, there is also a class of unmarked non-actives, first discussed in §3.1.1. Unlike transitives and unergatives, unmarked non-actives, for the most part, seem to form a unified morphosyntactic and semantic class. On the morphosyntactic side, they almost all form active counterparts (lexical causatives) with *-li*—some examples are given in (205).

(205) **Unmarked non-actives that form actives with *-li***

a.	*ossi-h*	it is small
	ossi-li-h	she shrunk it
b.	*tapaski-h*	it is narrow
	tapaski-li-h	she narrowed it
c.	*losakbi-h*	it is gray
	losakbi-li-h	she made it gray(er)

On the semantic side, they are almost all property-denoting (that is, they have the kind of interpretation that is typically denoted by adjectives, in languages for which adjectives are a separate category). What's more, when they are forced by context to have eventive rather than stative interpretations, they are uniformly interpreted as inchoative—that is, they cannot be interpreted as introducing an implicit agent. For instance, (206) shows that *apissa* 'be straight/straighten' cannot license a rationale clause, and (207) shows that it licenses *ilaap* 'by itself'.[72]

(206) **Unmarked non-actives cannot license rationale clause**

a. *Hina okla apissalitok, okla ittabówa kat átápana.*
hina okla=**apissali**-tok, okla=itta-boowa-k-at aatáapa-na
road PL=**straight.ACT**-PST PL=RECIP-beat.NACT-COMP-SS exceed:LG-and.DS
'They straightened the road because people were crashing into each other too much. '
(A_10-16-18_82)

71. Although there are some unmarked active verbs whose non-active counterpart is formed with an infixed <*l*>, e.g. *hochi-ifo*/*hohchifo* 'name'/'be named'. In §3.7.6 I argue that the infix <*l*> can only appear in the presence of Voice$_{[-N]}$.

72. This rationale clause is formed with different morphology from that described in §3.7.2. Further investigation of clause-typing and switch-reference morphology in Choctaw is required.

b. #Hina-t **apissa**-tok okla=itta-boowa-k-at aatáapa-na.
road-NOM **straight**-PST PL=RECIP-beat.NACT-COMP-SS exceed:LG-and.DS
(#'The road straightened because people were crashing into each other too much.')
(A_10-16-18, judgment)

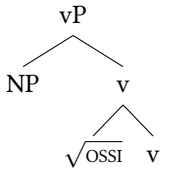
(207) **Unmarked non-actives license *ilaap* 'by itself'**

Ilaap apissa-t taha-h.
self straight-PTCP finish.NACT-TNS
'It straightened out by itself.' (A_10-16-18, judgment)

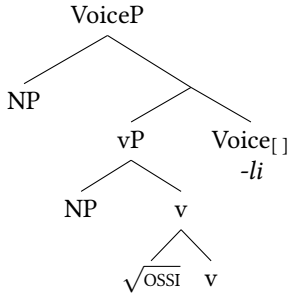
If we were to posit a Voice head for these intransitive property-denoting verbs, it would not do much work. It would not introduce a specifier, since these verbs have unaccusative syntax, it would be uniformly null, to capture the absence of overt morphology, and it would be uniformly expletive, to capture the fact that these verbs never have implicit agents. Instead, I propose that property-denoting, unmarked non-actives lack a Voice head entirely—that is, the extended projection of the root is capped by v (cf. Schäfer 2007, 2008, Alexiadou et al. 2015 on unmarked anticausatives). The structures for *ossi* 'it is small' and *ossili* 'she shrunk it' are provided in (208).[73]

(208) **Structures for alternating verbs formed with Ø/*-li***

a. *ossi-h* 'it is small'



b. *ossi-li-h* 'she shrunk it'



However, there are some unmarked, alternating non-actives that are naturally eventive rather than property-denoting. These were first discussed in §3.1.1, and the examples are repeated in (209) (from (10)).

(209) **Unmarked non-active verbs with naturally eventive readings**

a.	*nona-h*	it cooked
	nonaa-chi-h	she cooked it
b.	*bila-h*	it melted
	bilaa-chi-h	she melted it
c.	*shila-h*	it dried
	shilaa-chi-h	she dried it

73. It is possible that the association between property-denoting roots and the Voiceless syntactic structure is more than just accidental—see Harley (2005) for a proposal that property-denoting roots form a unitary class at semantic interpretation.

It would be an interesting question for future research to investigate whether these non-actives have the Voiceless structure in (208a), or whether they have a null, specifierless Voice head.

3.10 Appendix: stativity and the tests for implicit agents

As mentioned in §3.7, the standard tests for the presence and absence of an implicit agent are somewhat scrambled by stativity. For instance, in English, purpose clauses are licensed by stative semantics, as illustrated by the classic example in (210), from Williams (1974).

(210) Grass is green to promote photosynthesis.

We find the same effect in Choctaw—property-denoting intransitive verbs will generally license purpose clauses too, as in (211).

(211) [Kána-t ittiy-aa-bóowa-sh kiyo-h-o̲] hinah-at **apissa**-h.
someone-NOM RECIP-LOC-beat.NACT:LG-SS not-TNS-DS] road-NOM **straight**-TNS
'So that people don't hit each other, the road is straight.' (E_10-21-18, judgment)

And in (212), a purpose clause is licensed by the stativity introduced by *taha*+copula construction, despite the lack of implicit agent.

(212) [Abíikaa-m-a̲ ab-aachi̲-k-a̲] nípii-m-at **shila**-t taha yaa-tok.
disease-DEM-OBL kill-FUT-COMP-DS meat-DEM-NOM **dry.NACT**-PTCP finish.NACT be-PST
'In order to kill diseases, the meat was totally dry.' (E_10-21-18, judgment)

It is therefore crucial to control for stativity in order to be able to reliably deploy the tests for implicit agents (or at least some of them). However, it is not entirely clear how to do this, and it requires more work.

Chapter 4

Ergatives

In this section, I consider the distribution of ergative (ERG, 'class I') and absolutive (ABS, 'class II') clitics, and I propose that ERG clitics cross-reference those arguments that have received a *structural* ergative case value, while ABS clitics cross-reference arguments which lack an ergative or dative value (recall that 'ergative' ([ERG]) is a *value* of a case ([K]) *feature*, cf. §1.3.3). I argue that this structural ergative value is assigned by Voice heads. In the most familiar, 'canonical' configuration, Voice (either specifier-introducing $\text{Voice}_{[+N]}$ or underspecified $\text{Voice}_{[\ ]}$) assigns ergative case to an argument base-generated in its specifier. However, there are two complications to this simple picture. One complication comes when Voice is embedded as the complement of another Voice, as in syntactic causatives. In this configuration, only the higher of the Voice heads assigns ergative, while the lower Voice head is sapped of its ergative-assigning capability (this idea was introduced in §3.8.2).

The second complication, which forms the focus of this chapter, comes when a specifierless Voice head (either $\text{Voice}_{[-N]}$ or $\text{Voice}_{[\ ]}$) assigns an ergative value to the closest argument it c-commands. As a result, the internal argument—the subject of non-active verbs—gets ergative case. This is outlined in §4.2. The existence of this configuration is evidence that ergative in Choctaw must be structural, as opposed to inherent. The finding that Choctaw has structural ergative case has implications for the typology of ergative case cross-linguistically. In particular, I suggest in §4.3 that structural ergative can handle many of the configurations that pose challenges for dependent and inherent theories of ergative case.

The argument for ergative-bearing internal arguments is as follows. §4.4 looks at the distribution of ABS arguments, arguing that their heterogeneity means that they cannot be associated with any one structural relation, and accordingly that they should be defined *negatively*, in terms of the absence of an ergative value rather than the presence of an absolutive value. §4.5 then looks at several syntactic properties that generally

correlate with ABS-hood. I propose that each of them can be used as a diagnostic for internal argument status, and, where possible, provide some independent motivation for treating them as such. With these diagnostics in hand, §4.6 considers three classes of ERG argument that nonetheless behave (in certain ways) like internal arguments. I propose that these 'mismatched' arguments should be analyzed as receiving structural ergative case in their internal-argument position. §4.7 concludes the chapter with some further implications for the debate over the nature of ergative case.

4.1 Overview of clitic-doubling

Arguments in Choctaw are obligatorily cross-referenced by clitics on the verb—I sometimes refer to arguments as being 'doubled' or 'indexed' by clitics too (cf. §1.3.3). Clitics come in three classes, and the choice of clitic used to double a particular argument is determined broadly by the thematic role of the argument. The full table of clitics is provided in (1)—note that the IRR class replaces the ERG class with low negation or jussives (§2.5), so I do not consider them separately from the ERG class here.[1] The roman numerals stand for 'Class I/II/III', the traditional names for the clitic cases (Munro and Gordon 1982, Munro 1984b, Broadwell 2006).

(1) **Argument-indexing clitics**

	ERG (I)	ABS (II)	DAT (III)	IRR
1SG	-li	sa-/si-	(s)am-	ak-
2SG	ish-	chi-	chim-	chik-
1PC	ii-/il-	pi-	pim-	kii-
1PL	ii-/il-	hapi-	hapim-	kii-
2PL	hash-	hachi-	hachim-	hachik-
3	–	–	im-	ik-

It is important to note that there are no 3rd-person ERG or ABS clitics. 3rd-person arguments that *would* be ERG or ABS, were they 1st or 2nd-person, are not indexed by any clitic.

ERGative clitics index agents, as well as a cluster of thematic roles that often pattern with agents such as causers and state holders. Some ERG-indexed agents are shown in (2).

(2) **Agents are indexed by ERG clitics**

a. *Polaka í toksalách̲ih.*
polaka **ii**-toksal-aach̲i-h
finally **1PL.ERG**-dance-FUT-TNS
'We are finally going to dance.' (C_02-05-18_265)

1. The 1SG.ERG marker *-li* is *not* a clitic but an agreement affix—see §2.5.1 for discussion and references.

b. *Okla il apakfohlitok.*
okla=**il**-apakfohli-tok
PL=**1PL.ERG**-surround-PST
'We surrounded them.' (A_10-09-18_29)

All ERG-doubled arguments are subjects of their clause.

Themes and experiencers tend to be cross-referenced by ABSolutive clitics, as in (3).

(3) **Themes and experiencers are indexed by ABS clitics**

a. *Cholhkon mat sa lhiyohlitok.*
cholhkon-m-at **sa**-lhiyohli-tok
spider-DEM-NOM **1SG.ABS**-chase-PST
'That spider chased me.' (E_06-01-17_8)

b. *Sattolatok.*
sa-ttola-tok
1SG.ABS-fall-PST
'I fell.' (H_06-11-16_154)

c. *… Chifákoshi sannah.*
chifaakoshi **sa**-nna-h
needle **1SG.ABS**-need-TNS
'I need a needle.' (C_02-08-18_63)

These sentences show that ABS-hood is unrelated to subject vs object status: both objects (3a) and subjects (3b-c) may be cross-referenced by an ABS clitic.

Finally, a heterogeneous class of arguments, including applied arguments with 'oblique' roles but also many lexically-selected arguments, are cross-referenced by DATive clitics, as in (4). As with ABS clitics, both objects (4a) and subjects (4b-c) may be doubled by DAT clitics. As we will see, the distinction between selected and unselected datives cross-cuts the distinction between subject and object datives—these clitics are discussed in a lot more detail in chapter 5.

(4) **'Oblique' arguments are indexed by DAT clitics**

a. *Mary yat a̲ pa̲yatok.*
Mary-yat a̲-pa̲ya-tok
Mary-NOM 1SG.DAT-call-PST
'Mary called me.' (C_01-30-18_140)

b. *Chi̲ponnaho̲?*
chi̲-ponna-h-o̲
2SG.DAT-skilled-TNS-Q
'Are you skilled?' (E_06-22-16_51)

c. *Chi̲ holisso am ittolatok.*
chi̲-holisso **am**-ittola-tok
2SG.DAT-book 1SG.DAT-fall-PST
'I dropped your book.' (E_08-16-17_46)

The case and agreement systems are not in complementary distribution: in the event that a 1st or 2nd-person pronoun is overt (typically when it is focused), it bears an overt case marker *and* is clitic-doubled. By way of example, (5a) shows a pronoun with nominative case being cross-referenced by an ERG clitic, and (5b) shows an oblique pronoun being cross-referenced by a DAT clitic.[2]

(5) **Focused pronouns are indexed by clitics**

a. *Chishnákósh ish balílitokǫ?*
chishn-aak-oosh ish-baliili-tok-ǫ
you-FOC-**NOM.SP** **2SG.ERG**-sing-PST-Q
'Did YOU run?' (H_06-01-17_45)

b. *Kíyo, Lucy at anákǫ a holloh.*
kiiyo, Lucy-yat an-aak-**ǫ** **a**-hollo-h
No Lucy-NOM me-FOC-**OBL.SP** **1SG.DAT**-love-TNS
'No, Lucy loves ME!' (C_06-09-16_167)

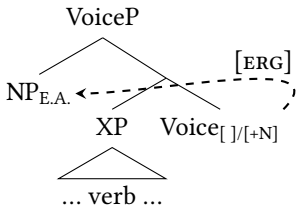
The fact that arguments can simultaneously participate in two case relations is discussed in chapter 6 and the conclusion (chapter 7). In the next section, I outline my analysis of ERG, ABS and DAT clitics.

4.2 Outline of analysis

I propose that ERG clitics double arguments that have received *structural ergative case*, that DAT clitics double arguments that have received *structural dative*, and that ABS clitics double arguments that have received neither of these case values.

Structural ergative case is generally assigned to arguments in Spec-VoiceP. All external arguments are base-generated in Spec-VoiceP, so external arguments generally receive ergative case. This is shown in (6).

(6) **[ERG]-assignment from Voice to an external argument**



This can be captured with some simple case-assignment rules, like those discussed in §1.3.3 and §3.8.2:

2. Broadwell and Martin (1993) present data showing that overt arguments do *not* need to be clitic-doubled. They show that ERG clitics (except for the 1SG ERG form *-li*), and ABS clitics used to cross-reference objects, may be optionally omitted in the presence of overt pronouns. The speakers I consulted were reluctant to accept verbs without clitic-doubling, however.

(7) **Case-assignment rules that assign [ERG]**

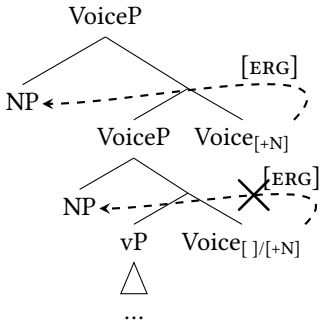
a. $\text{Voice}_{[+N]} \rightarrow$ Assign [ERG]

b. $\text{Voice}_{[\ ]} \rightarrow$ Assign [ERG] / _ Specifier[3]

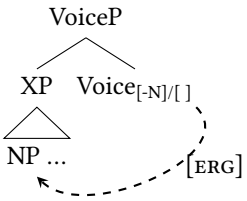
However, as discussed in the introduction to the chapter, there are two complications to this picture. Whenever an external-argument-introducing $\text{Voice}_{[\ ]/[+N]}$ head is in the complement of another $\text{Voice}_{[+N]}$ head—a syntactic causative configuration—the lower Voice head fails to assign ergative case. This is schematized in (8a). The second complication, which is discussed in detail in this chapter, is when $\text{Voice}_{[-N]/[\ ]}$ introduces no external argument, but nonetheless assigns ergative to the closest argument in its c-command domain. This is schematized in (8b).

(8) **Configurations where $\text{Voice}_{[\ ]/[+N]}$ behaves in an exceptional way**

a. $\text{Voice}_{[\ ]/[+N]}$ fails to assign [ERG] to specifier



b. $\text{Voice}_{[\ ]/[+N]}$ exceptionally assigns [ERG] downwards



The Voice-over-Voice causative structure in (8a), wherein the lower Voice head does not assign ergative to its specifier, was discussed in §3.8.2. There, I proposed that the general case-assignment rules in (7) are superseded by some more-specific rules that *block* the assignment of ergative case in the presence of a higher Voice head, repeated in (9) ('Ø' should be understood as 'don't assign case').

(9) **Case-assignment rules that block assignment of [ERG]**

a. $\text{Voice}_{[+N]} \rightarrow$ Ø / __ Voice

b. $\text{Voice}_{[\ ]} \rightarrow$ Ø / __ Voice

3. I set aside for now how exactly to represent the property of taking a specifier.

The empirical focus of this chapter, however, is the other instance of exceptional ergative: the 'low' ergative case schematized in (8b). Here, I propose that it is assigned from Voice$_{[-N]}$ (which does not introduce a specifier) in the context of certain roots, thanks to the context-sensitive case-assignment rule in (10).

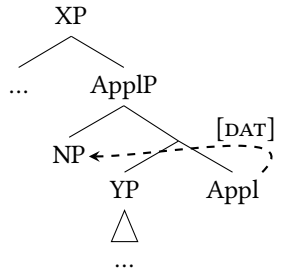
(10) **'Low ergative' case-assignment rule**

Voice$_{[-N]}$ → Assign [ERG] / {$\sqrt{\text{ROOT1}}$, $\sqrt{\text{ROOT2}}$, ...} _

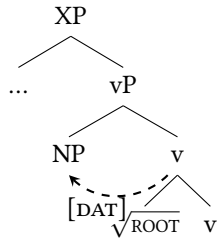
Turning briefly to dative case, I argue that it is not associated with any one structural position, but may be assigned either (a) by Appl to Spec-ApplP, as in (11a), or (b) by v to the complement of the verb, as in (11b).[4] The distribution of dative case is discussed in detail in chapter 5.

(11) **Dative case may be assigned in two configurations**

a.



b.



All other arguments, which receive neither ergative nor dative case, are doubled by ABS clitics.

4.2.1 The source of ergative case

One of the claims of this chapter is that ergative is assigned from the Voice head, rather than some higher head (as in many previous accounts of ergative case). Here, I briefly present some evidence for this claim, from structurally-truncated clauses. The argument is as follows: if ergative case really is associated with Voice, rather than some higher functional projection (e.g. C, T, Mod, etc; see §2.5.1 for discussion of the Choctaw clausal spine), then the ERG clitics should survive the removal of functional structure above Voice.[5]

The sentences in (12) provide five different kinds of structurally-reduced clause. In each of them the verb is still permitted to host ERG clitics. They are: (12a) clauses carrying the switch-reference marker *-cha* (cf. Linker 1987, Tyler 2019b), (12b-c) complement and adjunct participial clauses with *-t* (cf. Broadwell and Martin 1993, Broadwell 2006:204-206, Tyler 2019b), (12d) adjunct participial clauses with *-sh*, and (12e) (potentially-)nominalized clauses in the complement of *banna* 'want'.

4. This is *not* to say that Appl always assigns dative to its specifier. See chapter 5 for discussion of the behavior of applicative heads and dative arguments in Choctaw.

5. In order for this argument to go through, it must also be true that the head which *hosts* the ERG clitics must survive the removal of functional structure too. In §2.5.2, I lay out my assumptions that the head which hosts ERG clitics ('Host1') takes VoiceP as its complement, so there are no environments in which Host1 is removed but Voice survives.

(12) **Verbs in structurally-truncated clauses may host ERG clitics**

a. Adjunct clause with same-subject SR suffix *-cha*

Wák nipi oklí hopónicha ípatok.

[waak nípi okl=**ii**-hopóoni-cha] ii-pa-tok
cow meat PL=**1PL.ERG**-cook:LG-and.SS 1PL.ERG-eat-PST
'We cooked the steak and ate it.' (E_08-14-17_32)

b. Complement clause with participial *-t*

Oklí balílit tahlih.

[okl=**ii**-baliili-t] tahli-h
PL=**1PL.ERG**-run-PTCP finish.ACT-TNS
'We finished running.' (M_06-06-17_79)

c. Adjunct clause with participial *-t*

Kanimma il ilhkólit oklil ishtayatok.

[kánimma **il**-ilhkooli-t] okl=il-ishtaya-tok
somewhere **1PL.ERG**-go.PL-PTCP PL=1PL.ERG-drive-PST
'We drove everywhere.' (A_08-08-17_21)

d. Adjunct clause with participial *-sh*

Yammásh tabi íshilísh nowálachiho si áyiskatok.

yamm-aash [[tabi íishi-lii-sh] nowaa-l-aachi-h-o] si-aayiska-tok
DEM-FOC.NOM stick take:LG-**1SG.ERG**-PTCP walk-**1SG.ERG**-FUT-TNS-DS 1SG.ABS-fix-PST
'He's the one who fixed me so I have to walk with a stick.' (A_01-29-18a_54)

e. Nominalized(?) clause in the complement of *banna* 'want'

Chahta annopa ish ikkana yo sannah.

[Chahta annópa **ish**-ikkana-yo] sa-nna-h
Choctaw language **2SG.ERG**-learn-OBL/DS 1SG.ABS-want-TNS
'I want you to study Choctaw.' (PB_06-20-17_24)

All of these clauses could be argued to be structurally-truncated in some way (see the references cited above). Here I focus on participial clauses with *-t*, which perhaps have the least amount of functional structure out of all of them. Below, we see that they reject tense morphology (13a), mood morphology (13b), low negation (13c) and even the postverbal 1SG ergative agreement morpheme *-li* (13d).[6]

(13) **Evidence that participial clauses with *-t* are structurally reduced**

a. They reject tense morphology

Katie-at taloowa-**(*tok)**-t tahli-tok.
Katie-NOM sing-**(*PST)**-PTCP finish.ACT-PST
'Katie had sung.' (adapted from Tyler 2019a:1153)

b. They reject mood morphology

Káti-km-ak-o chi-assano-**(*aachi)**-t tah-aachi-h.
do.when-if-FOC-DS 2SG.ABS-grow.up-**(*FUT)**-PTCP finish.NACT-FUT-TNS
'When are you going to grow up?' (A_01-30-18_3, judgment)

6. See Broadwell and Martin (1993) and Tyler (2019b, 2019a) for discussion of the high syntactic position of the 1SG.ERG marker *-li*, relative to the other ERG clitics.

c. They reject low negation

*Ák-p-o-t tahli-tok.
1SG.IRR-eat:LG-NEG-PTCP finish.ACT-PST
('I didn't eat it up.') (Broadwell 2006:205)

d. They reject 1SG.ERG agreement suffix *-li*

*Apa-**li**-t tahli-tok.
eat-1SG.ERG-PTCP finish.ACT-PST
('I ate it up.') (Broadwell 2006:205)

The unavailability of this functional material points to *-t*-participial clauses missing T, Mod, a low Neg, and 'Author' (the host for the 1SG.ERG marker *-li* cf. §2.5.1, Tyler 2019a), although they can take grade morphology (not shown).[7] Therefore ergative must be assigned by a head which survives this radical truncation. I propose that the relevant head is Voice.

It worth clarifying that my claim that structural ergative is assigned by Voice should not be taken to hold true of ergative alignment systems cross-linguistically, or even all structural ergative systems, and there seems to be cross-linguistic (and cross-analysis) variation in this property. As a sample, Deal (2010, 2019) argues that structural ergative is assigned by Voice in Nez Perce, Bjorkman (2018) proposes that ergative is assigned by (perfective) Asp in Hindi-Urdu, and Rezac et al. (2014) argue that it is assigned by (nondefective) T in Basque (*contra* Arregi and Nevins 2012, who argue that in Basque, ergative is assigned by v (=Voice)). Ultimately it appears that the locus of ergative-assignment—and in languages with clitic-doubling, the locus of ergative clitics—can vary across languages, with attendant consequences that I do not investigate here.

4.3 The theoretical stakes

In this chapter I argue at length that the derivation in (8a), in which an internal argument receives an ergative case value, is real, and pervasive in Choctaw. This has implications both for the analysis of agreement/clitic-doubling in the Muskogean languages, and for the analysis and typology of ergative case cross-linguistically.

4.3.1 Implications for the analysis of Muskogean alignment

A classic approach to Muskogean alignment systems is that while the overt case-markers on NPs reflects a nominative-accusative distinction corresponding (at least in part) to the syntactic subject/object distinction,

7. Note that we have not ruled out Asp—the locus of grade morphology (§2.5.4)—as a potential ergative-assigner. *-t*-participles do seem to include AspP, since they may appear in grade forms (e.g. (1a) in fn. 28), so structural truncation does not provide any evidence against Asp as the ergative-assigner. Nonetheless, I believe Asp is implausible as a source of ergative, by the following reasoning. Bjorkman (2018) provides an explicit analysis in which ergative is assigned by Asp. She proposes that only some Asp heads assign ergative (perfective but not imperfective), thus deriving aspect-aligned split ergativity in languages such as Hindi-Urdu. If ergative was assigned by Asp in Choctaw, we would expect the availability of ergative to vary with the aspect of the verb. This does not happen: Choctaw makes a number of aspectual distinctions through its *grade* system (§2.5.4), but this system is entirely independent from ergative marking.

verbal agreement morphology is a direct reflection of an argument's thematic role. This is the approach found, either explicitly or implicitly, in much work on Choctaw and Chickasaw, including Nicklas (1974), Heath (1977), Payne (1982), Davies (1981a, 1986), Broadwell (1988, 1990).[8]

However, Munro and Gordon (1982) note a problem with the classic analysis of Muskogean morphology: there are a number of apparent 'mismatches' between thematic role and choice of clitic. In particular, there are a large number of verbs whose subjects would, in a cross-linguistic perspective, be considered non-agents, yet which nonetheless cross-reference them with an ERG clitic. Some of the mismatches they identify are given in (14) (the bolded morphemes are ERG or Class I agreement markers), and I supply a further mismatch from Choctaw in (15).

(14) **Chickasaw: non-agentive verbs with ERG subjects**

a. **kii**-hanna'li
1PL.ERG-six
'There are six of us'

b. **ish**-hopoo
2SG.ERG-jealous
'You are jealous'

c. **is**-sa-thaana
2SG.ERG-1SG.ABS-know
'You know me'

d. habiina-**li**
receive-1SG.ERG
'I got it as a present'

(Munro and Gordon 1982:83-85)

(15) **Choctaw: non-agentive verb with ERG subject**

Katí fokáli ho tamáha okla í mayáchih?
kátii-fokaali-h-o tamaaha okla=**ii**-máy-aachi-h
when-approximately-TNS-DS town PL=**1PL.ERG**-be.PL:NG-FUT-TNS
'How long will we be in town?' (C_01-30-18_217)

A further problem with the idea that clitic choice directly reflects semantics is that it is not at all trivial to determine the semantic property that characterizes DAT-doubled arguments to the exclusion of ABS-doubled arguments, particularly in light of pairs like (16).

(16) a. a-ponna-h
1SG.**DAT**-skilled-TNS
'I am skilled.'

b. sa-lhakko-h
1SG.**ABS**-strong-TNS
'I am strong.'

Hardy (1988) notes a large number of similarly unpredictable alignments in Creek, a Muskogean language more distantly related to Choctaw.

In light of mismatches like (14-15), and unclear mappings from meaning to morphology like (16), Munro

8. Foley and Van Valin Jr. (1984) base some argumentation for their model of grammar on the assumption that this holds true in Muskogean languages.

and Gordon propose that the choice of agreement clitic that a verb uses to cross-reference its arguments must be stored in the lexicon, at least for some verbs. The analysis I propose here is thus, in a sense, a 'syntacticized' version of Munro and Gordon's analysis: the fact that some unaccusative verbs have their subject doubled by an ERG clitic, rather than an ABS or DAT clitic, must still be stated as a idiosyncratic property of certain lexical items. However, the relationship between the lexical entry of the verb and ERG morphology is now mediated by syntax: certain roots and syntactic configurations, exceptionally, condition specifierless Voice to nonetheless assign ergative to the closest argument it c-commands (as in (8b)).[9]

This analysis does more than just implement Munro and Gordon's analysis with minimalist technology, however: it accounts for a striking asymmetry in the lexical mismatches that we see. Namely, while there are a number of non-active verbs that unexpectedly mark their subject with an ERG clitic rather than the expected ABS clitic, as in (14-15), there are vanishingly few verbs (perhaps none) which display the opposite mismatch: these would be agentive verbs cross-referencing their subject with a ABS or DAT clitic.[10] I propose that this asymmetry is not an accident, but in fact emerges from the analysis: if Voice introduces a specifier, it *must* assign that specifier ergative case—the only exception comes when it is in the complement of another Voice head (as in syntactic causatives—cf. §3.8.2). By contrast, the reverse implication does not hold: Voice heads that do not introduce a specifier *can* still assign ergative case downwards.[11]

Next, I turn to the implications of the analysis for theories of ergative case.

4.3.2 Implications for the analysis of ergative case

The sentences in (17) illustrate the distribution of canonical ergative case—it is found on transitive subjects, as in (17a), but absent from transitive objects (17a) and intransitive subjects (17b).

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9. I do not claim that a 'low ergative' derivation is appropriate for *all* of the 'mismatched' verbs that Munro and Gordon identify—for instance, they propose that the subject of *ithaana* 'know' being ERG is an instance of a mismatch, but research in argument structure has shown that state holders of transitive stative verbs may be projected as external arguments (Kratzer 1996).

10. The best candidate for a 'reversed mismatch' verb (agentive semantics, DAT/ABS clitic) that I have been able to find is Chickasaw *yili'kachi* 'slither' (Munro 1999:252). But even that is a motion verb, and I argue in this chapter that some motion verbs have internal-argument subjects (§4.6.1).

11. Under an alternative, 'raising-to-ergative' analysis, we might appeal to more general principles of syntactic movement to explain the asymmetry. The initial assumption would be that being in Spec-VoiceP, whether by base-generation in or syntactic movement into that position, is a sufficient condition for an argument to receive ergative case. The very standard assumption that syntactic movement—in particular A-movement—can only ever proceed *upwards* can then derive the asymmetry: movement from an internal argument position to Spec-VoiceP respects the upwards-only condition on movement; by contrast, movement from Spec-VoiceP 'downwards' to an internal argument position would violate the upwards-only condition on movement.

Although this explanation would be quite satisfying, it makes an incorrect cross-linguistic prediction: namely that languages with active alignment systems may *never* show this kind of mismatch (external argument marked like an internal argument). However, Woolford (2010) notes that Lakota, another language with an active agreement system like Choctaw's, *does* show some mismatches that go in this direction, driven by the language's fixed order of person arguments. In fact, Woolford (2010:36) goes a step further and argues that in languages with active agreement, like Choctaw and Lakota, the Lakota-type mismatch is the *only possible* type of mismatch. I hope to show in this chapter that this is untrue.

(17) **Dyirbal: canonical ergative cae system**

a. nguma yabu-**nggu** bura-n
father.ABS mother-**ERG** see-NONFUT
'Mother saw father.'

b. yabu banaga-n^{y}u
mother.ABS return-NONFUT
'Mother returned.' (Dixon 1994:161 cited in Aldridge 2008:967)

Within generative syntax, a number of theories have been put forward to account for the distribution of canonical ergative case. They fall into two main camps. On the one hand, there is the *inherent* theory of ergative case, which holds that ergative case is assigned to an external argument in Spec-VoiceP (=Spec-vP) by the Voice head itself, which also assigns it its thematic role. In such theories there is a strong link between ergative case and the thematic role assigned to external arguments. On the other hand, there is the *dependent* theory of ergative case, which proposes that NPs receive case when they find themselves in particular structural configurations with one or more other NPs. The standard approach to dependent ergative is that, given two NPs in an asymmetric c-command relation within a local domain, ergative is assigned to the higher of the two. In such theories there is no link between the thematic role of the ergative argument and its case—it just happens that the higher of two arguments in a clause *tends* to be an external argument.

In this section, I argue that neither model can account for the distribution of ergative case in the languages we know of—data from a number of languages provides (near-)insurmountable challenges for simple inherent case or dependent case accounts. I subsequently suggest that many of the problems of both analyses can be solved with *structural* ergative case, assigned by a functional head. I argue that this is the correct analysis for Choctaw. I also comment on transitive unaccusative verbs, which are frequently deployed as evidence of dependent ergative case. I suggest that the dependent-ergative-like *emergent ergative* pattern that we find in transitive unaccusatives in Choctaw (and some other active languages) undercuts the relevance of the evidence from transitive unaccusatives.

Turning first to the inherent analysis of ergative case, versions of this analysis have been proposed by Butt (1995), Woolford (1997, 2006, 2015), Aldridge (2004, 2008, 2012), Anand and Nevins (2006), Laka (2006), Legate (2006, 2008, 2012), Coon (2013), among others. The basic idea, adapted to the argument-structural assumptions used in this dissertation, is that ergative case is assigned by Voice to the external argument base-generated in Spec-VoiceP, in tandem with the assignment of the external argument thematic role. One initial objection to this kind of analysis is the fact that in canonical ergative case systems, ergative case fails to show up on the subject of unergative intransitives, or de-transitivized transitives like in (18b-c).

(18) **Yidiny: ergative case fails to appear on external argument subjects of intransitives**

a. wagud^{y}a-ŋgu d^{y}ugi gunda-l (galba:n-da)
man-ERG tree.ABS cut-PRES axe-INSTR
'The man is cutting a tree (with an axe).'

b. wagu:d^{y}a gunda-:d^{y}i-ŋ d^{y}ugi-:l (galba:n-da)
man.**ABS** cut-AP-PRES tree-LOC axe-INSTR
'The man is cutting a tree (with an axe).'

c. wagu:d^{y}a gunda-:d^{y}i-ŋ (galba:n-da)
man.**ABS** cut-AP-PRES axe-INSTR
'The man is cutting himself (with an axe) [on purpose].' (Yidiny, Dixon 1979:73-74)

However, as has been pointed out, the failure of ergative case to show up on the external argument of intransitives can be accommodated fairly easily with the imposition of a transitivity restriction on ergative case (Woolford 1997, 2006, 2015, Deal 2010, Legate 2012). In such theories, languages with an *active* case system (like the Muskogean clitic system) simply lack this transitivity restriction, and allow ergative to be marked on the lone argument of unergative verbs. Some examples from Western Basque, which has an active case system, are shown in (19).

(19) **Western Basque: ergative appears on unergative subjects**

a. Klara-k ondo eskia-tzen du.[12]
Klara-**ERG** well ski-IMPF HAVE.3SG.ABS/3SG.ERG
'Klara skis well.'

b. Eguzki-a-k disdira-tzen du.
sun-DET-**ERG** shine-IMPF HAVE.3SG.ABS/3SG.ERG
'The sun shines.' (Laka 2006:379-380)

In fact the existence of active case systems like Basque's is often taken to be solid typological evidence in favor of inherent ergative case, since the underlying relationship between external-argumenthood and ergative case is not obscured by the transitivity restriction.

The greater empirical challenge to inherent ergative case comes from the *over*-application of ergative case. In particular, there is a growing body of work arguing that some internal arguments may be marked with ergative case. The syntactic configuration that best illustrates this phenomenon, in a variety of languages, is when an applied argument is added to an unaccusative verb. A representative example, this one from Inuktitut, is given in (20). In (20a), the subject of the intransitive unaccusative verb 'die' is absolutive/unmarked. But the addition of the applied argument in (20b) causes the same argument to be marked with ergative.

12. The '3SG' absolutive agreement morphology on the auxiliary does not necessarily correspond to a syntactically-present absolutive argument. Preminger (2009) argues that this is the 'default' morphology that shows up when the ABS probe fails to locate a target.

(20) **Inuktitut: ergative appears on unaccusative subject in the presence of applied argument**

a. Jiisusi tuqu-lauq-tuq
Jesus.ABS die-PST-3SGS
'Jesus died.'

b. Jiisusi-**up** tuqu-jjutigi-lauq-taatigut
Jesus-**ERG** die-APPL-PST-3SGS/1PLO
'Jesus died for us.' (Yuan 2018:106)

This same pattern, where the unaccusative subject of an intransitive acquires ergative case in the presence of an applied argument, has been identified in Shipibo (Baker 2014a, 2015), Ixil (Imanishi 2017), Nez Perce (Deal 2019), as well as Kalaallisut, Chukchi, and Yup'ik (Baker and Bobaljik 2017). In addition, the behavior of relational psych applicatives in Halkomelem Salish seems to fit the pattern (Gerdts and Kiyosawa 2005). To my knowledge, there is no clear way to account for this phenomenon in an inherent ergative system.

This is where *dependent* ergative case comes in, as proposed, defended and refined by Marantz (1991/2000), Bittner and Hale (1996), McFadden (2004), Baker (2014a, 2015), Baker and Bobaljik (2017), Yuan (2018), among others. Under dependent case models, the case marked on an NP is determined by its structural configuration with respect to other NPs within the same domain. The standard approach to dependent ergative is that, given two NPs in an asymmetric c-command relation within a local domain, ergative is assigned to the higher of the two. This system accounts nicely for the pattern in (20), since the appearance of ergative on the theme argument is conditioned by the presence vs. absence of the applied argument, and *not* by its absolute structural position.

However, this empirical gain is balanced out by empirical losses elsewhere. For one thing, the pattern in (20) is just one way in which transitive unaccusatives are treated in languages with ergative-absolutive case systems. Another common case array for transitive unaccusatives is that *neither* argument is marked as ergative. For instance, certain transitive unaccusative verbs in Shipibo (a language which *does* show ergative on applicativized unaccusatives, cf. Baker 2014a, 2015) take two absolutive arguments, as shown in (21a). (21b) provides a similar example from Burushaski—a language with otherwise canonical ergative-absolutive case-marking, and (21c) shows that Choctaw too has verbs that work this way.

(21) **Double-absolutive configurations cross-linguistically**

a. Shipibo
José-ra yapa keen-ai.
José.ABS-PRT fish.ABS want-IMPF
'José wants some fish.' (Baker 2014a:344)

b. Burushaski
Jé káman peesá d-á-can-abaa.
I.ABS some money.X.ABS D-1SGOBJ-need-1SGSUBJ.PRES
'I need some money.' (Willson 1996:43, cited in Baker 2017:761)

c. Choctaw
Chi-sa-yimmi-h.[13]
2SG.ABS-1SG.ABS-believe-TNS
'I believe you.' (Davies 1986:77)

Baker (2015, 2017) and Baker and Bobaljik (2017) account for exceptional cases like these by relativizing dependent case assignment to particular *phases*, but I set this complication aside for now.

Another empirical issue with dependent ergative comes from the appearence of ergative case on unergative subjects, as in (19). The classic way of bringing cases like these into the fold of a dependent-ergative analysis is to claim that, whenever ergative shows up on an apparent intransitive subject, there is in fact a hidden syntactic object argument that serves as a case competitor for the subject, thus inducing ergative case. For discussion of the 'concealed transitive' analysis of Basque unergatives, see Halle and Marantz (1993), Laka (1993), Bobaljik (1993) and Preminger (2012). Generally, my impression is that the 'concealed transitive' analysis of ergative-marked unergatives works only for those Basque unergatives formed with the light verb construction in (22), which involves the light verb *egin* 'do' and a nominal complement. For those unergatives formed without the light verb construction, such as (19), Preminger (2012) argues that there is no evidence for a syntactically-projected object argument.

(22) Gizon-a-k aharrausi egin du.
man-DET-ERG yawn do.PERF HAVE.3SG.ABS/3.SG.ERG
'The man yawned.' (Basque, Laka 2006:377)

Similarly it is hard to see what evidence one could muster for the claim that Choctaw unergative verbs like those in (23) have implicit, syntactically-active objects.

(23) **Unergative verbs with ERG-indexed subjects**

a. ish-baliili-h 'you run'
2SG.ERG-run-TNS

b. ish-taloowa-h 'you sing'
2SG.ERG-sing-TNS

c. ish-hilha-h 'you dance'
2SG.ERG-dance-TNS

A second way of saving the dependent ergative analysis from problematic cases like (23) is provided in Baker and Bobaljik (2017). They observe an asymmetry in how active alignment is expressed cross-linguistically: it is attested almost exclusively in head-marking systems, in the form of verbal agreement (as with the Muskogean languages), but rarely in dependent-marking systems, in the form of overt nominal case

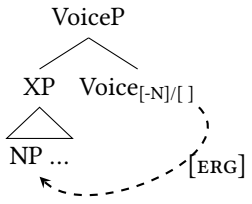
13. Broadwell (2006) and Tyler (2019a) note that for many contemporary Choctaw speakers, the only verb that permits ABS-ABS arrays is *banna* 'want/need'. However, Davies (1986) lists several others, including *yimmi* 'believe' as in (21c), as allowing this array. This is likely a point of dialectal or generational variation. It's interesting that verbs meaning 'want' and 'need' commonly take exceptional ABS-ABS case arrays in languages with ergative-absolutive or active alignment, but I do not pursue this here.

(as with Western Basque). Baker and Bobaljik propose that active alignment is restricted to head-marking systems (Basque's active alignment is argued to be illusory), and it comes about as a consequence of how agreement probes are distributed within the clause. To illustrate how this would work, they suggest that "the closest c-commanding head with agreeing features for a theme argument could well be different from the closest c-commanding head with agreeing features for an agent argument", owing to their different structural position. However, their account faces some problems. The main problem is that it predicts that, in an active agreement system like Choctaw's, arguments will *always* trigger the agreement appropriate to their base-generated structural position. That is, choice of agreement should function as a foolproof diagnostic for internal vs. external argumenthood. Yet, as I argue in this chapter, Choctaw exhibits various configurations in which internal arguments are treated as external arguments *by the agreement system*, despite patterning in other ways like internal arguments. It is unclear how these arguments would be accounted for in Baker and Bobaljik's system. What's more, Baker and Bobaljik's system loses us the intriguing parallel discussed in §4.6.5 (and Tyler 2019a) between Choctaw and Basque, in which both languages seem to allow absolutive arguments to be exceptionally marked as ergative in the presence of a second internal argument (perhaps with a particular featural composition)—that is, despite having generally 'active' alignment systems, in this one area they behave as though they were ergative-absolutive (cf. the Inuktitut example in (20). This parallelism suggests that this 'alignment shift' operation, which I term 'emergent ergative', traffics in the same formal features across both languages, but it would be reduced to mere coincidence if agreement can never be a direct reflection of case. A final issue with Baker and Bobaljik's system is that it relies on argument-doubling clitics being agreement markers. However, in previous work I have shown that there are reasons to analyze them as 'true' clitics, which have a degree of morphosyntactic independence from their host verb, and which are represented at LF (§1.3.3, Tyler 2019b).

Thus, to sum up so far, both inherent and dependent analyses of ergative case are empirically deficient in terms of accounting for the cross-linguistic distribution of ergative. One possible path forward would be to take a less purist approach to ergative, allowing for the idea that both inherent and dependent case might coexist across languages, and possibly within the same language. However, this approach would still be no help as a way of accounting for 'mismatched' Muskogean verbs like those in (14-15). Those verbs are intransitive, so a dependent account will be no help, and, by hypothesis, their subjects are internal arguments (evidence to be provided in this chapter), so an inherent account will be no good either.

This is where *structural* ergative comes into its own. For those examples in (14-15), in which ergative shows up on an internal argument in the absence of a case competitor, neither the inherent nor dependent theory of ergative will suffice. But in the theory outlined in §4.2, these simply involve the Voice head assigning ergative case downwards to an internal argument, as in (24), repeated from (8b).

(24) **Voice$_{[\ ]/[+N]}$ exceptionally assigns [ERG] downwards**



So if my analysis of Choctaw ERG clitics is correct, then it constitutes important evidence for the existence of structural ergative case. For previous accounts of ergative as a structural case (as opposed to inherent or dependent), see Bobaljik and Branigan (2006), Deal (2010, 2019), Arregi and Nevins (2012), Rezac et al. (2014) and Bjorkman (2018), among others.

Note also that Rezac et al.'s (2014) argument for structural ergative in Basque comes from a similar configuration: they show that the subject of *behar* 'must' is assigned ergative case despite (a) *behar* not assigning a thematic role to its subject and (b) there being no case competitor for the subject. The relevant data is below: in (25a) we see that the intransitive verb *etorri* 'come' takes an absolutive subject, but in (25b) we see that when *etorri* is embedded under *behar*, the subject raises and becomes ergative.

(25) **Basque: subject of *behar* 'must' is ergative**

a. Miren eta Jon etorri dira.
Miren.ABS and Jon.ABS come AUX.3PL.ABS
'Miren and Jon came.'

b. Jon-ek eta Miren-ek etorri behar dute
Jon-ERG and Miren-ERG come must AUX.3PL.ERG
'Jon and Miren must come' (Rezac et al. 2014:1278, 1290)

Ergative here cannot be inherent (they show extensive evidence that *behar* is a raising verb) nor can it be dependent (the subject has no case competitor). This leaves structural ergative as the only option.[14]

So if structural ergative is shown to exist in Choctaw, as well as a handful of other languages, what does this mean for a more general theory of ergative case? One option is that structural ergative should supersede inherent ergative, leaving a two-way typological distinction in ergative systems: structural vs dependent. Collapsing inherent ergative into structural ergative is a relatively painless alteration to the theory: the association between ergative case and head that introduces the external argument (Voice) is retained, but the association is weakened such that Voice is permitted to assign ergative to arguments that are not in its specifier. The kinds of internal arguments that receive ergative case could then vary by lexical item across languages—languages with a more 'strictly inherent' distribution of ergative case would be analyzed as

14. Artiagoitia (2001) and Preminger (2012) present some other arguments for Basque having structural ergative.

simply having a very small number of (or zero) verbs or configurations where ergative is assigned to an internal argument.

A more radical option would be to collapse both inherent *and* dependent ergative case into structural ergative. This is not, I believe, as challenging as it appears. Deal (2019), for instance, considers applicatives of unaccusatives in Nez Perce, which display the same emergent-ergative pattern as in (20). She argues that the presence of ergative on the theme argument in these constructions is a consequence of the theme moving to Spec-VoiceP, the position in which (structural) ergative case is assigned. Thus even the pattern that is used as the poster-child for dependent ergative case does not actually lead to dependent ergative case.

In fact, the clitic system of Choctaw bears on this issue too. I propose in this section that ergative in Choctaw is not dependent. Yet intriguingly, in certain transitive unaccusative constructions the emergent-ergative pattern shows up—see §4.6.5 and Tyler (2019a). If Choctaw ergative is not dependent, yet unaccusative subjects sometimes become ergative in the presence of applied arguments anyway, then that suggests that the emergent-ergative pattern in (20) should not be attributed to ergative case being dependent. See the conclusion to this section (§4.7) for discussion of this point.

Finally, the model proposed here can account for some configrations that pose a challange to both dependent *and* inherent theories of ergative case: agentive, transitive verbs with absolutive subjects. (26) provides some examples from other languages.[15]

(26) **Agentive transitive verbs without ERG subjects cross-linguistically**

a. Warlpiri

Kulu ka-rla karnta jinta-kari-ki-rlangu-ku
fight.ABS PRES.IMPF-3DAT woman.ABS one-other-DAT-for.example-DAT
jurrurru-yarnka-mi watiya-ku karlangu-ku.
grabbing-grab-NONPAST wood-DAT digging.stick-DAT
'In a fight a woman grabs hold of the other woman's stick.' (Legate 2012:187)

b. Warlpiri

Jinta-kari ka-rla ngirrily-ngirrily-wangka jinta-kari-ki,
one-other.ABS PRES.IMPF-3DAT aggressive-aggressive-speak.NONPAST one-other-DAT
kulu-kungarnti.
fight-in.preparation.for
'One is provoking the other to fight.' (Legate 2012:187)

c. Mohawk

yewakátye?s
'I (PATIENT CASE) throw (it).' (Mithun 1991:534)

15. The fact that the Warlpiri examples in (26a-b) take dative objects does not mean we should automatically expect the subject to be absolutive, because the verb fails to meet the transitivity requirement for the assignment of ergative case. Ergative can be marked on Warlpiri subjects in the presence of absolutive *or* dative objects—that is to say, ERG-DAT arrays are attested (Legate 2008, 2012).

d. Hindi-Urdu

Kabir-(*ne) vo kitaab laay-aa/*ii.
Kabir.M-(*ERG) that book.F bring.PERF-M/*F
'Kabir brought that book.' (Mahajan 2012:208)

e. Basque

[Liburu-a iraku-tze-n] saiatu dira.
book-ART.SG.ABS read-NMZ-LOC tried AUX.3PL.ABS
'They tried to read the book.' (Etxepare 2006:(53a), cited in Preminger 2012:9)

Relatedly, Tollan (2018) shows that when typically-unergative verbs in Samoan, as in (27a), are supplied with cognate objects, the external argument subjects fail to acquire ergative, as in (27b). Instead the agentive subject remains absolutive and the cognate object appears with a separate structural case that Tollan labels as accusative, as in (27c).

(27) **Samoan: adding cognate object to unergative does not make the subject ergative**

a. Sā siva [le teine].
PST dance DET girl
'The girl danced.'

b. *Sā siva [**e** le teine] [(i) le uosi].
PST dance **ERG** DET girl ACC DET waltz
('The girl danced a waltz.')

c. Sā siva [le teine] [i le uosi].
PST dance DET girl ACC DET waltz
'The girl danced a waltz.' (Tollan 2018:7-8)

Cases like (26) and (27c) are challenging for dependent and inherent theories of ergative case, which would predict that the subject of an agentive transitive verb should invariably bear ergative case.[16] Under the structural account here, however, it is perfectly possible for particular roots to condition Voice to *not* assign ergative case to an external argument. Indeed, this is what was proposed for the lower Voice head in a syntactic causative (see the tree in (8a)).[17]

4.3.3 Implications for the general analysis of case

The analysis presented in this section holds that arguments doubled by ERG clitics have their case feature valued as [ERG]. We also know that Choctaw also has a robust nominative/oblique case system, marked on nominals, and in chapter 6 I present evidence that nominative NPs are distinguished from oblique NPs

16. Although Legate (2012) and Mahajan (2012) argue that examples like (26), in Warlpiri and Hindi respectively, constitute evidence for *inherent* ergative. I do not discuss their argument here.

17. An alternative solution would be to allow certain external arguments to be merged as the specifier to v, rather than Voice (Wiltschko 2006, Massam 2006, 2009, Legate 2012, Grestenberger 2014, Polinsky 2016, Tollan and Oxford 2018, Tollan 2018). Legate (2012:187) suggests that this is an idiosyncratic property of certain roots, while Tollan (2018) proposes a semantic distinction between the thematic role assigned to low agents (in Spec-vP) and the role assigned to high agents (in Spec-VoiceP), based on Dowty's (1991) theory of proto-roles.

by the presence of a [NOM] case value (oblique case being the realization of a [K] feature with no [NOM] value). Nominative case does not track ergative case—while all ergative arguments are nominative, there are nominative arguments that are doubled by ABS or DAT clitics instead.

Taking the findings of this chapter and chapter 6 together, we end up in a situation where a single NP must be capable of having its case feature valued as simultaneously an ergative *and* nominative. This finding, and its precedents and implications, is discussed in detail in the final chapter of the dissertation (chapter 7). Some previous researchers have been wary of coming to this conclusion, however, and have developed some alternative proposals. Here, I mention two of them in outline, and discuss why I think the case-based analysis I develop here has the edge. The previous analyses are: the 'case-marking as switch-reference' analysis of Jelinek (1989), and the 'concealed split ergativity' analysis of Woolford (2008, 2010).

Jelinek (1989) proposes that Choctaw is a pronominal argument language, in the sense of Jelinek (1984) (Schütze 1994, 1995 makes a similar claim). For our purposes, the relevant part of her claim is that the ERG, ABS and DAT clitics express true case distinctions of the familiar kind. Overt NPs, which sit in adjunct positions, are linked to these clitics anaphorically but are independent clauses. The NOM and OBL markers they carry are in fact switch-reference markers signaling coreference or disjoint reference with the clitics—see §2.7 for discussion of the double lives of Choctaw's switch-reference/case markers. Then, if Choctaw really is a pronominal-argument language, the dual function of the NOM/OBL morphemes can be accounted for: 'case-markers' are really switch-reference markers, and apparent arguments are really just very reduced adjoined clauses. There is only one 'real' alignment system—the clitic system. However, I refer the reader to the arguments marshalled against this analysis in §2.7.3. In §2.5.1, I present an account of switch-reference marking which attempts to reduce it to case, rather than vice versa (cf. §2.5.1).

Woolford (2008, 2010) offers an alternative take on Choctaw's mismatched alignment systems. For her, the mismatch is illusory—nominative arguments are always cross-referenced by dedicated nominative-marking verbal morphology, and obliques (for her, accusatives) are always cross-referenced by oblique morphology. The way it works is that ABS morphemes are *clitics* that are undifferentiated for nominative vs. oblique case, while ERG morphemes are *nominative agreement affixes*. This means that oblique arguments are always cross-referenced by clitics (i.e. ABS morphemes), while nominative arguments may be cross-referenced either by a clitic (i.e. an ABS morpheme) or by nominative agreement (i.e. an ERG morpheme). Her typology can be represented thus:

(28) **Woolford's analysis of Choctaw ERG and ABS markers**

	NOM-marked argument	OBL-marked argument
agreement	'ERG' (NOM case)	
clitics	'ABS' (NOM case)	'ABS' (OBL case)

Setting aside the unusual clitic/agreement cut that she proposes (see Broadwell and Martin 1993, Tyler 2019b and §2.5.2 for discussion of the clitic/agreement split in Choctaw), the core part of her analysis lies in *how* the grammar makes the choice of whether to cross-reference a nominative argument with agreement (i.e. ERG morphemes) or clitics (i.e. ABS morphemes). She proposes that the choice is in fact Choctaw's instantiation of *split ergativity*. Hindi provides an example of a split ergative system−−in the perfective aspect, as in (29a), we see ergative-absolutive alignment, while in non-perfective aspects, as in (29b), it disappears, and both subject and object are absolutive/unmarked.

(29) **Hindi: aspect-based split ergativity**

a. Lataa-ji-**ne** kai gaane gaa-ye
Lataa.F-HON-**ERG** many song.M.PL sing-PFV.M.PL
'Lataa-ji sang several songs.'

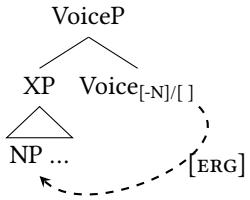
b. Lataa-ji gaane gaa-tii thĩ
Lataa.F-HON song.M.PL sing-HAB.F be.PST.F.PL
'Lataa-ji used to sing songs.' (Bhatt 2007:2-3)

In Hindi, the ergative split is conditioned by aspect, but ergative splits conditioned by mood or the person specification of the subject are well-attested in the languages of the world (see Coon 2013 for an overview of generative approaches). For Choctaw, Woolford essentially proposes to add another possible conditioning factor to this typology: whether or not the subject is an external argument, a property that Woolford encodes with an '[ext]' feature. In Choctaw, then, a nominative argument triggers agreement (i.e. ERG morphology) if it has the [ext] feature and triggers clitic-doubling (i.e. ABS morphology) if it lacks the feature.

The problem with Woolford's analysis is that the [ext] feature is essentially an inherent ergative case feature or value in all but name. This makes its drawbacks twofold: firstly, the analysis faces all the same problems that inherent or 'semantic' approaches to Choctaw clitics face (see the previous subsection). Secondly, if [ext] is not a true case feature or value, we lose the ability to draw cross-linguistic parallels between how the Choctaw clitic system works and how active case systems work in languages such as Basque.

Over the rest of this chapter, I make the case for 'low ergative' structures—internal arguments with ergative case, as shown in (30).

(30) **Voice$_{[\ ]/[+N]}$ exceptionally assigns [ERG] downwards**



In the next section I characterize four kinds of argument, in four different structural positions, that are indexed by ABS clitics. This supports the claim that the ABS clitics cross-reference those arguments without structural case (i.e. without ergative or dative case values), and that they lack a uniform syntactic characterization of their own. In §4.5 I then identify a number of morphosyntactic properties that generally correlate with being doubled by an ABS or DAT clitic. These, I argue, are properties that pick out internal arguments in the syntax. Then, in §4.6, I show that many of these properties are *also* found with a small number of ERG-doubled arguments. I propose that these ERG-doubled arguments, which behave in some respects like internal arguments, are good candidates for *low ergative* structures. Finally, in §4.7 I conclude and offer some further thoughts—in particular, I present independent evidence that the [ERG] value is associated with the Voice head, and is assigned *downwards* to the internal argument as in (30).

4.4 ABS internal arguments

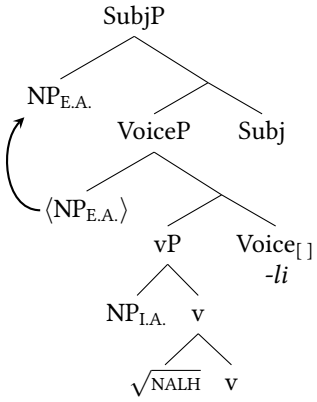
In this section, I show that themes (§4.4.1), psych experiencers (§4.4.2) and causees (§4.4.3) are generally cross-referenced with ABS clitics. I also show that each of these arguments is base-generated in a different syntactic position within the extended projection of the verb—Spec-vP, Spec-ApplP and Spec-VoiceP, respectively. What unites them is that none of them are assigned ergative or dative case. Furthermore, I show in §4.4.4 that ABS clitics are found outside of the verbal domain too, being used to cross-reference inalienable possessors within the extended projection of a noun. This supports my analysis that ABS clitics double arguments that *lack* ergative or dative case values.

4.4.1 ABS themes

1st and 2nd-person theme arguments are typically doubled by ABS clitics (recall that there are no 3rd-person ABS or ERG clitics). The structure of the VoiceP domain for (31a), with an ABS object, is given in (31b). The structure for (32a), with an ABS subject, is given in (32b). In each case, I represent movement of the higher argument to the subject position (following §2.3.1).

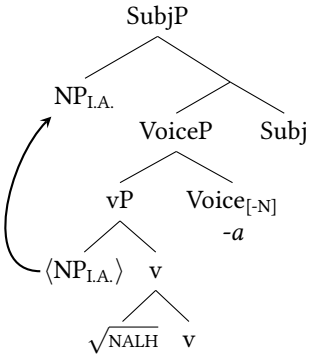
(31) **ABS theme object**

a. Sa-nalhlhi-tok.
1SG.ABS-shoot.ACT-PST
'She shot me.' (constructed example)

b. 

(32) **ABS theme subject**

a. Sa-naalha-tok.
1SG.ABS-shoot.NACT-PST
'I got shot.' (constructed example)

b. 

See chapter 3 for further discussion of the causative alternation in Choctaw.

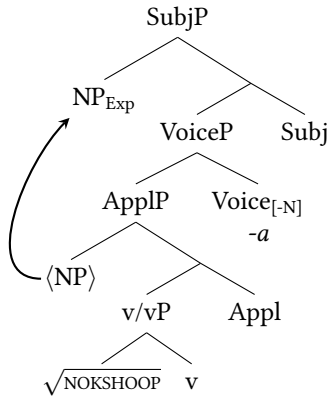
4.4.2 ABS experiencers

Following the analysis in Tyler (2019a), psych experiencers are merged in the specifier of a high applicative, as in (33b). Like the themes in (31b) and (32b), they are doubled by ABS clitics.

(33) **ABS experiencer subject**

a. Sa-nokshoopa-h.
1SG.ABS-scare.NACT-TNS
'I am scared.' (A_06-05-17_1)

b.



The motivation for having psych experiencers merge in Spec-ApplP rather than than Spec-vP, the canonical theme or internal-argument position, is partly theoretical and partly empirical. On the theoretical side, there is a wealth of evidence that psych experiencers, cross-linguistically, are neither canonical external arguments nor canonical objects (Belletti and Rizzi 1988, Pesetsky 1996, Anagnostopoulou 1999, McGinnis 1998, 2000, Wood 2015). Merging them in Spec-ApplP, between the external argument and direct object positions, captures this finding. On the empirical side, we can muster two arguments. Firstly, these verbs may take an optional object, which assumes a stimulus role (or 'target/subject matter' role, in the sense of Pesetsky 1996). Some examples are given in (34). Examples (34a-b) show that the stimulus object and is usually doubled by a DAT clitic, and (34c) shows that at least one subject-experiencer verb, *banna* 'want/need', indexes its object with an ABS rather than a DAT clitic (the absence of a DAT clitic on *banna* 'want' is evidence that the object must be ABS—see also Broadwell 2006:147 and Davies 1986:64-85 for more on the agreement behavior of *banna*).[18]

(34) **ABS-subject psych verbs may take DAT/ABS objects**

a. *Bill at ofi kopóli kásh ma i nokshópah.*
Bill-at [ofi kopooli-k-aash] -m-a **i**-nokshoopa-h
Bill-NOM dog bite-COMP-PREV -DEM-OBL **DAT**-scare.NACT-TNS
'Bill is scared of the dog that bit him.' (C_06-14-17_55)

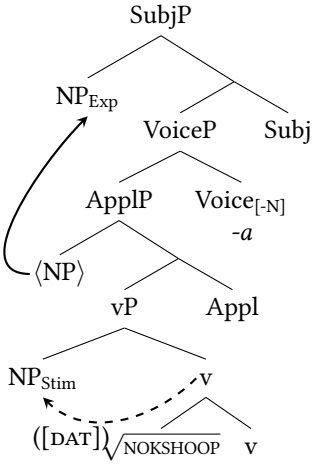
b. *Hattak mat hapi noktalhah.*
hattak-m-at **hapi**-noktalha-h
man-DEM-NOM **1PL.DAT**-jealous-TNS
'That man is jealous of us.' (B_10-15-19b_35)

c. *Nana chinnakma í chimanah.*
nána **Ø**-chi-nna-km-a ii-chim-Ø-ana-h
thing **3.ABS**-2SG.ABS-want-if-DS 1PL.ERG-2SG.DAT-give-MOD-TNS
'We'll give you anything you want.' (E_01-31-18_112)

18. When the optional stimulus argument of a psych verb is the grammatical object of the clause, Gerdts and Kiyosawa (2005) refer to this as a *relational applicative*, found in a small number of other language families, including Salish. This terminology does not quite jibe with my analysis: I have the optional stimulus argument being introduced in the canonical theme position, and it is the obligatory experiencer argument that sits in an applicative phrase.

Having the experiencer argument be merged in Spec-ApplP leaves 'room' for the stimulus argument to be merged in a lower position, as in (35), and thus to function as the object. Note that the assignment of dative case from v to the stimulus argument is lexically determined—most psych verbs do it, as in (34a-b), but some don't, such as *banna* 'want/need' in (34c).[19]

(35) **Structure of ABS>DAT transitive psych verb**

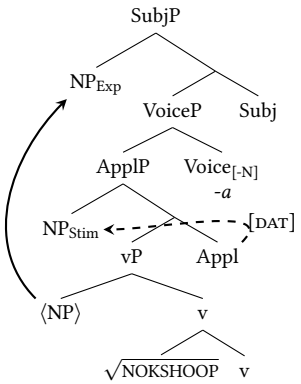


The second argument for merging the psych experiencer in Spec-ApplP is that psych verbs are incompatible with applied dative subjects. I show in §4.5.3 that compatibility with applied dative subjects is a typical property of Choctaw non-active verbs, yet psych verbs reject them:

(36) **pro*$_{1SG}$ Alla a-nokshoopa-tok.
child 1SG.DAT-scare.NACT-PST
(*'My kid was scared.'/*'I had the kid get scared (on me).'/*'I (deliberately) had the kid scared.')

19. An initially-plausible alternative analysis of psych verbs with stimulus objects, as in (34a-c), would be that the stimulus argument is merged in Spec-ApplP and assigned dative there, the experiencer is the complement of v, and the experiencer crosses over the stimulus on the way to the subject position, as in (i).

(i)



While I argue in chapter 5 that Choctaw *does* have some 'crossing' derivations of this nature, I reject this analysis of psych verbs. For one thing, while this analysis could be made to work for those psych verbs with dative stimulus arguments, it would be hard to make work for *banna*: the derivation would involve a lower argument crossing over an intervening *non-dative* NP. For another thing, I show in chapter 5 that datives involved in crossing derivations may only be interpreted as beneficiaries and sources/locations. It would therefore be surprising if psych stimulus arguments fell into this class too.

This property of psych verbs falls out if we assume that the Appl head that usually introduces dative subjects (Appl1, cf. §4.5.3, and chapter 5) is incompatible with the non-dative-assigning Appl head employed for psych verbs.

ABS>DAT psych verbs recur later in this chapter. In §4.6.5 I show that the addition of the DAT object permits the ABS argument to be 'promoted', and indexed by an ERG clitic instead of an ABS one (see also Tyler 2019a). Furthermore, the restrictions on the co-occurrence of argument-doubling clitics on ABS>DAT verbs is discussed, and contrasted with different restrictions we find on DAT>ABS verbs, in §5.4.1.

4.4.3 ABS causees

Causees in causative constructions are doubled by ABS clitics, as shown in (37).

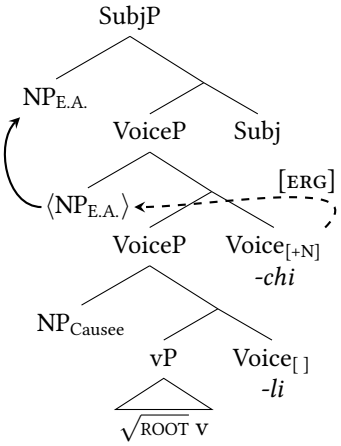
(37) **ABS causees**

a. *Jenny at sa talówachitok.*
Jenny-at sa-taloowa-chi-tok
Jenny-NOM 1SG.ABS-sing-CAUS-TNS
'Jenny made me sing.' (A_01-29-18a_71)

b. *Chi mokoffichílitok.*
chi-mokoffi-chii-li-tok
2SG.ABS-release.ACT-CAUS-1SG.ERG-PST
'I made you let it go.' (A_10-18-18_17)

In chapter 3, I argue that the functional head that introduces the causee in its specifier is the regular Voice head that associates with the root (either $\text{Voice}_{[\,]}$ or $\text{Voice}_{[+N]}$). While this functional head *typically* assigns ergative case to its specifier, it does not do so in this syntactic configuration—its typical case-assignment rule is superseded by a rule that does *not* assign case in the context of a higher $\text{Voice}_{[+N]}$ head. (38) shows the syntactic structure for the causative of a transitive verb formed with $\text{Voice}_{[\,]}$ (*-li*), e.g. (37b).

(38) **Structure of causativized transitive: causee not assigned [ERG]**



The non-assignment of ergative case by the lower Voice head in a syntactic causative was discussed in §3.8.2.

Thus far, we have seen that ABS clitics may be used to double internal arguments originating in three different places within the extended projection of the verb: Spec-vP (themes, §4.4.1), Spec-ApplP (psych experiencers, §4.4.2) and Spec-VoiceP (causees, this section). Next, I show that ABS clitics may appear even in the absence of verbal infrastructure, and can index possessors within a noun phrase.

4.4.4 ABS possessors

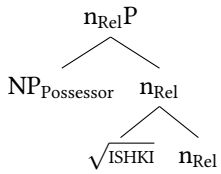
ABS clitics are used to index inalienable possessors within certain noun phrases. The left column of (39) shows the inalienably-possessed noun phrase 'mother' with the full range of ABS clitics marking its possessor. The right column shows the same clitics being used to mark a theme subject on the verb *abiika* 'be/get sick'.

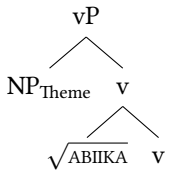
(39) **ABS clitics used to mark inalienable possessors and themes**

ABS inalienable possessors		ABS themes	
sa-shki	'my mother'	**si**-aabiika	'I am sick'
pi-shki	'our mother'	**pi**-aabiika	'we are sick'
hapi-shki	'all of us's mother'	**hapi**-aabiika	'we all are sick'
chi-shki	'your mother'	**chi**-aabiika	'you are sick'
hachi-shki	'y'all's mother'	**hachi**-aabiika	'y'all are sick'
ishki	'her mother'	abiika	'she is sick'

A common approach to the syntax of inalienable possession holds that inalienable possessors are merged closer to the nominal root than alienable possessors (Authier 1988, Tellier 1990, Vergnaud and Zubizarreta 1992, Barker 1995, Español-Echevarría 1997, Alexiadou 2003, Myler 2014, 2016). Following this line of work, I assume that inalienable possessors are merged as the specifier of a special n head ($n_{Rel(ational)}$) found with a subset of the language's relational nouns (see Tyler to appear for in-depth discussion). This creates the nP structure in (40a), which is directly parallel to the vP structure in (40b) (cf. (32b)).[20] Since inalienable possessors are not assigned dative or ergative case, they will generate ABS clitics.

(40) **Structurs for nP (relational) and vP**

a.


b.


20. This analysis is generalizable to a number of other languages, since, in languages that distinguish alienable and inalienable possession, it is common for inalienable possessors to be marked like pronominal objects (Seiler 1983, Nichols 1992, König and Haspelmath 1998).

Relatedly, see chapter 5 for discussion of the parallelism between dative arguments in the verbal domain and *alienable* possessors in the nominal domain, both of which are cross-referenced by DAT clitics.

Thus we have seen that arguments doubled by ABS clitics originate in a heterogenous set of structural positions, both inside and outside the verbal domain, and it is hard to identify a single 'absolutive-assigning' functional head or structural configuration. This supports the analysis in which ABShood is defined by the absence of ergative or dative case, rather than the presence of an 'absolutive' case feature or value.

In the next section, I discuss several further properties that generally correlate with ABS-hood. I argue that these properties aren't directly related to the presence of the ABS clitic—rather, these are properties that generally hold of *internal arguments*. This will set us up for the discussion in §4.6, in which I show that a variety of ERG arguments nonetheless display properties typical of internal arguments. These constitute the evidence for 'low ergative' configurations (where an internal argument nonetheless receives ergative case) in Choctaw.

4.5 Diagnosing internal arguments

We saw in the previous section that internal arguments are generally doubled by ABS clitics (or DAT clitics, though I set these aside for the moment). External arguments, by contrast, are base-generated in Spec-VoiceP where they (typically) receive ergative case, and so end up doubled by ERG clitics. In this section, I list four properties, other than clitic choice, that correlate with internal-argument-hood: auxiliary selection (§4.5.1), conditioning pluractional allomorphy (§4.5.2), compatibility with applied dative subjects (§4.5.3), and surviving the (anti)causative alternation (§4.5.4). These properties function as imperfect diagnostics for internal argument status.

In the next section (§4.6), I show that these diagnostics do not always agree on the internal vs. external status of arguments. The specific points of disagreement constitute the evidence for low ergative derivations.

4.5.1 Auxiliary selection

Broadwell (1988, 2006) shows that verbs with ERG subjects generally co-occur with one class of auxiliaries—exemplified by *tahli* in (41a)—while verbs with ABS subjects generally co-occur with a different class—exemplified by *taha* in (41b).[21]

21. *Taha* has a wider range of interpretations than *tahli*. In addition to being able to express completed events and completely affected participants, *taha* is also used to indicate something like the progressive:

(41) **Auxiliary selection based on ERG/ABS status of subject**

a. *Talówat ish tahlitok …*
taloowa-t ish-**tahli**-tok
sing-PTCP 2SG.ERG-finish.ACT-PST
'You've finished singing.' (A_06-16-17_21)

b. *Alla mat hashshok ik taptólotoko, cháha kat ishat tahah.*
allaa-m-at hashshok ik-taptóol-o-tok-o, chaaha-k-at isha-t
child-DEM-NOM grass IRR-cut.ACT:LG-NEG-PST-DS tall-COMP-SS exceed-PTCP
taha-h
finish.NACT-TNS
'That kid didn't cut the grass, so it's grown tall.' (PB_06-15-17_21)

Verbs with psych experiencer subjects also take *taha*-class auxiliaries, as in (42), as do verbs with dative subjects, as (43).

(42) **ABS-subject psych verbs take *taha***

a. *Sa nokshópat tahah.*
sa-nokshoopa-t taha-h
1SG.ABS-scare.NACT-PTCP finish.NACT-TNS
'I'm terrified.' (J_06-21-16a_70)

b. *Bill at hapi nokshópat tahah.*
Bill-at hapi-nokshoopa-t taha-h
Bill-NOM 1PL.DAT-scare.NACT-PTCP finish.NACT-TNS
'Bill is terrified of us.' (H_07-11-16_9)

(43) **Dative-subject verbs take *taha***

a. *Itakóbit tahah.*
i-takoobi-t taha-h
DAT-lazy-PTCP finish.NACT-TNS
'He's too lazy.' (A_06-05-17_12)

b. *Im ahchibat tahah movie pa.*
im-ahchiba-t taha-h movie-p-a
DAT-tired-PTCP finish.NACT-TNS movie-this-OBL
'He's tired of this movie.' (A_02-08-18_55)

This follows if auxiliary selection distinguishes internal from external arguments—psych experiencers and dative subjects are internal arguments.

(i) a. Chi-nashooka-t okchakko-t taha-h!
2SG.ABS-face-NOM blue-PTCP finish.NACT-TNS
'Your face is turning blue!' (PB_08-08-17_40)

b. John-at hina chanálli i-hikíya-t piih i-toshbi-t taha-h.
John-NOM car DAT-stand.NG-PTCP just DAT-rust-PTCP AUX-TNS
'John's ride is standing there just getting rusty.' (C_02-05-18_184)

Broadwell (1988:124) also notes that *taha* can mean something like 'finally', in which case it can appear with any verb. The speakers I consulted gave varying judgments on the acceptability and interpretation of *taha* with canonical ERG-subject verbs, and as such I leave it out of example (41a).

I am unable to offer much in the way of a novel explanation for why unaccusative and unergative verbs select for different auxiliaries—see Sorace (2000), McFadden (2007) and J. Baker (2018) for discussion of typological and theoretical issues in auxiliary selection. However, it is notable that the unergative-class auxiliaries are formed with *-li*—an exponent of Voice$_{[\ ]}$—while the unaccusative-class ones are formed with *-a*—an exponent of Voice$_{[\text{-N}]}$. In a sense, then, the auxiliary seems to be in a kind of 'agency concord' relation with the main verb—if the main verb introduces an external argument, the auxiliary will reflect this morphologically, and if the main verb does *not* introduce an external argument, the auxiliary will reflect this too. I leave investigation of this phenomenon to future work.

As with all of the properties of internal arguments laid out in this section, there are some mismatches—verbs that take ERG subjects but which select *taha*-class auxiliaries. These are discussed in §4.6.

4.5.2 Pluractional allomorphy

Many Choctaw verbs exhibit allomorphy conditioned by *pluractionality* (Broadwell 1988, 1993, 2006). The semantic conditions under which pluractional marking is licensed are given a brief (though incomplete) discussion in §3.6.

The pairs of verbs in (44) and (45) illustrate a common allomorphy pattern for active (i.e. transitive) change-of-state verbs (Broadwell 2006:135): in non-pluractional ('singulactional') environments, the stem ends in *-ffi*; in pluractional environments (plural object or pluractional event), the stem ends in *-hchi*.

(44) **Pluractional alternation in an active change-of-state verb**

a. *Ishtipa kochoffilih.*
ishtípa kochoffi-li-h
fork bend.ACT-1SG.ERG-TNS
'I bent the fork.' (A_10-08-18_25)

b. *Cans kochohchit tahlilitok.*
cans kochohchi-t tahli-li-tok
cans bend.ACT.PL-PTCP finish.ACT-1SG.ERG-PST
'He crushed the cans.' (A_10-08-18_80)

(45) **Pluractional alternation in an active change-of-state verb**

a. Tanapoo-m-a lhokaffi-li-tok.
gun-DEM-OBL fire.ACT-1SG.ERG-PST
'I fired the gun' (E_10-21-18, judgment)

b. *Tanapo ma lhokahchilitok.*
tanapoo-m-a lhokahchi-li-tok
gun-DEM-OBL fire.ACT.PL-1SG.ERG-PST
'I fired the gun several times.' (E_10-21-18_60)

With transitive verbs, pluractional allomorphy is only ever sensitive to the plurality of the ABS object argument, never to the plurality of the ERG subject argument.

A large number of intransitive verbs exhibit pluractional allomorphy too. An example is given in (46), which showcases a common pattern for intransitive change-of-state verbs (Broadwell 2006:135)—the singular/non-pluractional stem ends in *-fa* and the plural/pluractional stem ends in *-hli* (see §3.6 for analysis and decomposition of these forms).

(46) **Pluractional alternation in a non-active change-of-state verb**

a. *Balloon at bokáfatok.*
balloon-at bokaafa-tok
balloon-NOM pop.NACT-PST
'The balloon popped.' (A_10-24-18_33)

b. *Firecracker mat bokáhlih.*
firecracker-m-at bokaahli-h
firecracker-DEM-NOM pop.NACT.PL-TNS
'The firecracker is popping.' (D_10-19-18_77)

c. *Balloon mat bok̲ahli kat át̲apah.*
balloon-m-at bok̲áhli-k-at aat̲ápa-h
balloon-DEM-NOM pop.NACT.PL:NG-COMP-SS too.much.NACT:NG-TNS
'The balloons are popping too much.' (D_10-19-18_79)

Most verbs that undergo this particular alternation (*-fa*/*-hli*) *also* have causative counterparts, which participate in the *-ffi*/*-hchi* alternation in (44-45). These verbs can therefore be safely classified as having *internal argument* subjects. Combined with the observation that only the *objects* of transitive verbs may condition pluractional allomorphy (not their subjects), we are led to the generalization that only internal arguments may condition pluractional allomorphy. Supporting this, to my knowldge there are no unergative verbs that show pluractional allomorphy.

In a cross-linguistic perspective, this is the kind of restriction we would expect to find: generally only internal arguments (transitives objects and unaccusative subjects) are capable of conditioning stem allomorphy or suppletion (Durie 1987, Harley 2014, Bobaljik 2015, and references cited therein, though see Toosarvandani 2016 for some potential counterexamples). The explanation for why the internal-argument restriction on stem allomorphy should hold lies in the locality conditions on allomorphy, discussed by Harley (2014) and Bobaljik and Harley (2017). They propose that only internal arguments sit in a sufficiently local relation with the verb root, such that they can condition root allomorphy. External arguments are merged outside of this domain, and so they cannot condition it.[22]

22. Thornton (2018) argues for a compelling refinement of this idea. She proposes that plural allomorphy and suppletion is conditioned by the specification of a vP-internal # node, rather than the features of an argument itself. This accounts not only for the Northern Paiute data in Toosarvandani (2016), in which plural allomorphy is conditioned by unergative subjects, it also allows for a simple explanation of why both plural internal arguments *and* plural events are capable of triggering stem allomorphy, in Choctaw and

4.5.3 Compatibility with applied dative subjects

Many intransitive verbs with ABS subjects can have an applied DAT subject added to them, causing the original ABS subject to become the grammatical object. The pairs of sentences in (47-49) illustrate the possibility of adding a dative subject to a several non-active intransitive verbs. In each (b) example, the applied subject that the DAT clitic indexes is in a dashed box. The interpretation of applied dative subjects (noted above each example) is discussed in chapter 5, but here I focus on their syntax.

(47) **Dative subject = indirect causer/'engineer'**

a. Abooshi mo̲ma-k-at kashoofa-t táaha yaa-tok.
room all:NG-COMP-NOM clean.NACT-PTCP finish.NACT:LG be-PST
'All the rooms had been cleaned.' (A_10-18-18, judgment)

b. *Mi̲ko yat abóshi mo̲ma ka̲ i̲ kashófat táha yátok.*
mi̲ko-yat abooshi mó̲ma-k-a̲ **i̲**-kashoofa-t táaha yaa-tok
chief-NOM room all:NG-COMP-OBL **DAT**-clean.NACT-PTCP finish.NACT:LG be-PST
'The chief had all of the rooms cleaned.' (A_10-18-18_54)

(48) **Dative subject = locative experiencer**

a. Chi̲-holisso-at ittola-tok.
2SG.DAT-book-NOM fall-PST
'Your book fell down.' (constructed example)

b. *Chi̲ holisso am ittolatok.*
pro.1SG chi̲-holisso **am**-ittola-tok
2SG.DAT-book **1SG.DAT**-fall-PST
'I dropped your book.' (E_08-16-17_46)

(49) **Dative subject = external possessor**

a. Ofii-yat abiika-h.
dog-NOM sick-TNS
'The dog is sick.' (constructed example)

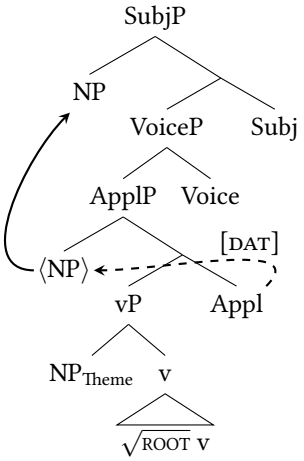
b. *Alikchi yat ofi im abíkah.*
alíkchi-yat ofi **im**-abiika-h
doctor-NOM dog **DAT**-sick-TNS
'The doctor's dog is sick.' (G_08-14-17_73)

In the analysis provided in chapter 5, the optional applied subject is merged in the specifier of a high ApplP, where it is assigned dative case. It moves to the subject position while the theme argument, which would typically become the subject in the absence of the applied argument, remains in-situ.[23]

cross-linguistically.

23. Verbs with applied dative subjects have traditionally been analyzed as emerging from two different syntactic operations. Sentences such as (49b) are seen as the consequence of a process of 'possessor raising', while most other dative-subject transitives are seen as the consequence of a process of 'dative raising' (also known as 'III-subjectivalization', the 'III' referring to the traditional terminology for DAT clitics). See Munro and Gordon (1982), Davies (1986) and Broadwell (2006) for previous description and analysis of these

(50) **Structure of verb with applied dative subject**



This structure predicts that we should be unable to add dative subjects to unergative verbs. This is because unergative subjects are merged as external arguments in Spec-VoiceP, above Spec-ApplP, and thus the applied argument would not be permitted to move over the external argument to subject position. This prediction holds true, as shown in (51).

(51) **Applied dative subjects are incompatible with unergatives**

a. *Hoshi a-taloowa-tok.[24]
bird 1SG.DAT-sing-PST
('My bird sang.')

b. *Alíkchi-yat ofi i-wohwa-tok.[25]
doctor-NOM dog DAT-bark-PST
('The doctor's dog barked.') (Tyler to appear)

Thus we can use the (in)compatibility of a verb with applied dative subjects as a test for the internal vs. external status of its subject.

Note however that this test is not foolproof—some intransitive verbs with ABS subjects are blocked from taking applied dative subjects, including psych verbs (§4.4.2) and verbs denoting permanent states (§5.5.3).

constructions, and see Tyler (2019a), and chapter 5, for my analysis that they share a syntactic structure.

24. Chickasaw seems to allow dative subjects to be added to unergatives, as shown in (i).

(i) **Chickasaw: applied dative subjects are compatible with unergatives**

a. Jan-at foshi'-at in-taloowa.
Jan-NOM bird-NOM 3.DAT-sing
'Jan's bird is singing.' (Munro 1999:254)

b. Jan-at ofi'-at im-impa.
Jan-NOM dog-NOM 3.DAT-eat
'Jan's dog is eating.' (Broadwell 1997b)

One way of accounting for this would be to assume that unergative subjects in Chickasaw are merged *below* Spec-ApplP—a plausible option given recent work on low unergatives (see the references cited in §4.3). This would still rule out the possibility of transitive verbs having applied dative subjects added to them, which is banned in both Choctaw and Chickasaw (Munro 1999).

25. The sentence in (51b) has an irrelevant interpretation, under which it is grammatical: 'The doctor barked for the dog.'

There are also intransitive verbs with ERG subjects that *do* permit applied dative subjects to be added. This later class of verbs provides some of the evidence for low ergative derivations, and is discussed in §4.6.

4.5.4 Surviving the causative alternation

Chapter 3 discussed how a large number of Choctaw verbs can be arranged into active/non-active pairs. The most common morphological marker for the active (transitive) member of a pair is a *-li* suffix, and for the non-active (intransitive) member it is an *-a* suffix. Some representative pairs are given in (52).

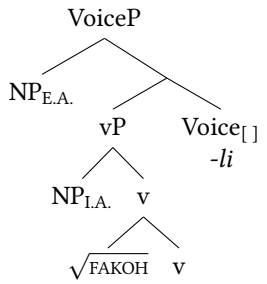
(52) **Alternating verbs formed with *-a*/*-li***

a.	fakoh-**li**-h	she peeled it off
	fakooh-**a**-h	it peeled off
b.	koo-**li**-h	she smashed it
	koow-**a**-h	it smashed
c.	fam-**mi**-h	she whipped him
	fam-**a**-h	he was whipped

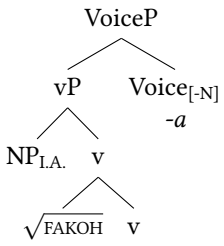
As discussed in chapter 3, active and non-active verbs are formed my merging different Voice heads with the vP constituent. With active verbs, Voice introduces a specifier, so it could be $\text{Voice}_{[+N]}$ or $\text{Voice}_{[\ ]}$, and with non-active verbs it does not, so it could be $\text{Voice}_{[\ ]}$ or $\text{Voice}_{[-N]}$ (see chapter 3 for details). The active and non-active structures for *fakohli*/*fakooha* 'peel off' are shown in (53).

(53) **Structures for alternating verbs formed from $\sqrt{\text{FAKOH}}$**

a.



b.



The internal argument is obligatory with both active and non-active verbs—with actives it is the object, and with non-actives it is the subject, but it is always present. The external argument appears only with the active alternant. In this way, we can look at whether an argument 'survives' across the two members of a causative alternation to determine whether or not it is an internal argument.

Note also that some psych verbs participate in the alternation too, as in (54).

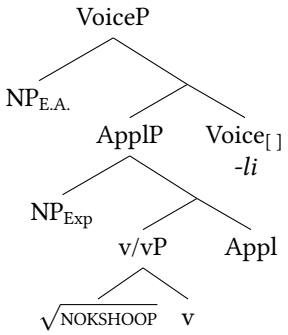
(54) **Alternating psych verbs**

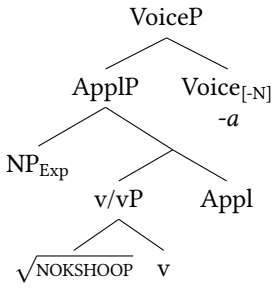
a.	nokshoob-**li**-h	she scared him
	nokshoop-**a**-h	he is scared

b. noklhaka̲sh-**li**-h she shocked him
noklhaka̲ch-**a**-h he is shocked

As with the other alternating pairs, the difference between them simply involves the presence of different Voice heads, one introducing an external argument in its specifier, the other not. With the psych verbs the Voice layer is stacked on top of an ApplP, rather than directly onto a vP, as shown in (55) (see §4.4.2), but the experiencer argument in Spec-ApplP is maintained across both alternants.

(55) **Structures for alternating psych verbs formed from $\sqrt{\text{NOKSHOOP}}$**

a.


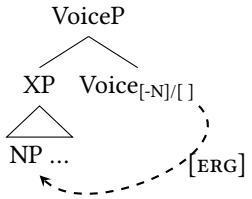
b.


To sum up, in this section we have seen four properties which usually correlate with internal argumenthood, as well as an explanation (or at least the outline of an explanation) for why each property might be expected to diagnose internal arguments. They are: selecting a *taha*-class auxiliary (§4.5.1), conditioning pluractional allomorphy (§4.5.2), being compatible with an applied dative subject (§4.5.3), and surviving the causative alternation (§4.5.4). These properties, as we have seen, *generally* correlate with the argument being cross-referenced by an ABS (or DAT) clitic. However, in the next section I argue that there is a distinct set of *internal* arguments which are nonetheless indexed by ERG clitics.

4.6 ERG internal arguments

§4.4 showed that internal arguments are typically doubled by ABS clitics and §4.5 outlined four other properties that generally correlate with internal argument status. In this section, I examine three kinds of mismatched argument, all of which are indexed by ERG clitics, but behave in other ways as though they are internal arguments. I propose that they can be captured by positing *downward ergative assignment* from Voice, schematized in (56).

(56) **[ERG]-assignment from Voice to an external argument**



The arguments I identify as low ergative are: the subjects of motion verbs (§4.6.1), the subjects of positional verbs (§4.6.2), the subjects of quantifier verbs (§4.6.4), and the subjects of transitive psych verbs (§4.6.5). In each case, we see that the subject of the verb is cross-referenced by an ERG clitic, but behaves like an internal argument according to at least *some* of the diagnostics provided in §4.5.

4.6.1 Motion verbs

Choctaw motion verbs cross-reference their subject with ERG clitics, as shown in (57). This includes not only manner-of-motion verbs like *baliili* 'run' and *okshinilli* 'swim', but also those that lexicalize a path, like *ala* 'arrive' and *chokkowa* 'enter'.

(57) **Motion verbs take ERG subjects**

a. ish-baliili-h — 'you run'
2SG.ERG-run-TNS

b. ish-okshinilli-h — 'you swim'
2SG.ERG-swim-TNS

c. ish-la-h — 'you arrive'
2SG.ERG-arrive-TNS

d. ish-chokkowa-h — 'you enter'
2SG.ERG-enter-TNS

But despite their ERG clitic, the subjects of motion verbs pattern in some ways like internal arguments. For one thing, motion verbs may co-occur with *taha*-class auxiliaries, which are typically found with ABS-subject verbs (§4.5.1, see also Broadwell 1988 and Broadwell and Martin 1993). This is shown in (58), although note that the *tahli*-class auxiliary, which usually shows up with ERG-subject verbs, is acceptable too, as shown in (58c).

(58) **Motion verbs can take *taha* or *tahli*-class auxiliaries**

a. *Balílit tahah.*
baliili-t **taha**-h
run-PTCP finish.NACT-TNS
'He's finished running.' (F_10-25-18_21)

b. *Okla áyalat tahah.*
okl=aayala-t **taha**-h
PL=arrive.PL-PTCP finish.NACT-TNS
'Everybody has arrived.' (F_10-25-18_28)

c. *Í balílit tahlih.*
ii-baliili-t **tahli**-h
1PL.ERG-run-PTCP finish.ACT-TNS
'We finished running.' (E_07-18-16_9)

For another thing, a number of motion verbs show allomorphy or suppletion for plural or dual subjects, as shown in (59) (*ish-* is the 2SG ERG clitic). Plural allomorphy or suppletion can typically only be conditioned by internal arguments (§4.5.2).[26]

(59) **Some motion verbs show plural allomorphy/suppletion**

a. *baliili-h*	'she runs'
tilhaaya-h	'they two run'
yilhiipa-h	'they run'
b. *iya-h*	'she goes'
itt-iyaa-chi-h	'they two go'
ilhkooli-h	'they go'
c. *ala-h*	'she arrives'
itt-alaa-chi-h	'they two arrive'
aay-ala-h	'they arrive'

The third property of motion verbs which makes them good candidates for having low ergative structures is that, for some speakers, they are compatible with applied dative subjects—this would imply that the subjects of motion verbs are introduced lower in the syntactic structure than Spec-ApplP (§4.5.3). Broadwell (2006) provides the example in (60a), and Carden et al. (1986) provide the Chickasaw example in (60b)—the dative subject in these cases is interpreted as an external possessor. However, the speakers I have consulted generally find motion verbs to be incompatible with dative subjects, so I am unsure of whether any of the other attested dative-subject interpretations (such as those in (47-49)) are compatible with motion verbs.[27]

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26. Speakers may use the singular form of some suppletive verbs even with plural subjects, as in (i). This is possible evidence that the fully suppletive forms are not different realizations of the same verb root, but different verbs with somewhat different meanings.

(i) Tamaaha okla iya-tok.
town PL go-PST
'They went to town.' (Broadwell 2006:239)

Another unexpected property of motion verbs is that the plural forms in (59) feature the suffix *-chi*—which I argue in chapter 3 to be the exponent of Voice$_{[+N]}$, the head responsible for introducing external arguments. The issue requires more investigation.

27. There is a way of expressing 'to lose something' which involves a dative subject on top of a motion verb root *kaniiya* 'go away', as in (i.a). However, *kaniiya* may also cross-reference its subject with ABS clitics, as in (i.b), and when it does it loses the motion semantics it has with ERG subjects. Therefore the sentence in (i.a) does not represent a true case of an applied subject being added to a motion verb root.

(60) **Marginal/dialectal: motion verbs are compatible with applied dative subjects**

a. Pam-at katos-at i-baliili-h.
Pam-NOM cat-NOM DAT-run-TNS
'Pam's cat is running.' (Broadwell 2006:307)

b. Jan-at ofi-at i-yopi
Jan-NOM dog-NOM DAT-swim
'Pam's dog is swimming.' (Chickasaw, Carden et al. 1986)

I postpone until the next section (§4.7.1) discussion of what happens in the syntax when applied dative subjects are added to low ergative verbs.

In summary, motion verbs are like ABS-subject verbs in their auxiliary selection, the fact that some show pluractional allomorphy or suppletion, and their (marginal or dialectal) acceptance of applied dative subjects. Regarding the remaining property of internal arguments identified in the previous section—their participation in a causative alternation (§4.5.4)—few motion verbs participate in the causative alternation. However, one example is given in (61).

(61) **A few motion verbs participate in the causative alternation**

a. *Oklí yilhípatokásh pittolatok.*
okl=ii-**yilhiipa**-tok-aash pi-ttola-tok
PL=1PL.ERG-run.PL-PST-PREV 1PC.ABS-fall-PST
'We ran and we fell.' (A_02-06-18a_25)

b. *Okla yilhiblilitok.*
okla **yilhibli**-li-tok
people rout-1SG.ERG-PST
'I chased them off.' (A_10-25-18_97)

Little can be learned from the morphology of motion verbs—as argued in chapter 3, the suffix *-li* is an exponent of underspecified Voice$_{[\ ]}$, which introduces or fails to introduce a specifier, depending on its surrounding syntactic context. The correspondence between morphology, syntax and interpretation in Choctaw motion verbs is investigated in §3.4.3, but further study is required.

(i) a. *Holisso a kaníyatok.*
holisso a-kaniiya-tok
book 1SG.DAT-lose-PST
'I lost the book.' (E_06-06-17_10)

b. *Ná sa kániyatok kiyoh.*
náa sa-kaaniya-tok kiyo-h
NPI 1SG.ABS-lose-PST not-TNS
'I didn't get lost.' (E_06-14-16_94)

Note also that speakers often find the usage of *kaniiya* in (i.b) to be funny, possibly because a human is being used with a verb that typically takes an inanimate argument.

4.6.2 Positional verbs

Many positional verbs cross-reference their subjects with ERG clitics, such as those in (62).

(62) **Positional verbs take ERG subjects**

a. ii-binohmáya-h 'we're sitting'
1PL.ERG-sit.PL:NG-TNS

b. ish-hikíya-h 'you're standing'
2SG.ERG-stand.SG:NG-TNS

There are at least three pieces of evidence that the ERG subject of these verbs is an internal argument, and thus that these verbs have a low ergative structure.

The first piece of evidence comes from their participation in the causative alternation. Some alternating pairs of positional verbs are shown in (63).

(63) **Many positional verbs participate in the causative alternation**

a. *binii-li-h* 'it is sitting'
binii-chi-h 'she sat it down'

b. *takaa-li-h* 'it is hanging'
takaa-chi-h 'she hung it'

c. *hikí-ya-h* 'it is standing'
hilii-chi-h 'she stood it up'

Note that while these verbs end in *-chi*, and thus could be analyzed as productively-derived syntactic causatives rather than lexical causatives, the fact that they are interpreted as encoding direct causation rather than indirect causation suggests that they are lexical causatives (see §3.5.5). Some positional verbs with clear direct causation readings are shown in (64).

(64) **Transitive positional verbs formed with *-chi* may encode direct causation**

a. *Chi fokka lobo achífacha aba takáchih.*
chi-fokka lobo achíifa-cha aba **takaa-chi**-h
2SG.DAT-shirt round wash.ACT:LG-and.SS up $\sqrt{\text{HANG}}$-CAUS-TNS
'Wash your shirt and hang it up.' (F_06-22-16_33)

b. *Holbatoba-m-a chokbika hilíchih.*
holbatóbaa-m-a chokbika **hilii-chi**-h
picture-DEM-OBL corner $\sqrt{\text{STAND}}$-CAUS-TNS
'Put that picture in the corner.' (F_07-21-16_82)

The interpretation of verbs like *takaachi*, as in (64a), also contrasts with clear syntactic causatives based on the same root, like *takaalichi* 'make it become stuck', cf. §3.5.5.

The second piece of evidence comes from the root allomorphy diagnostic (§4.5.2): many intransitive positional verbs (possibly all) exhibit allomorphy or suppletion conditioned by the number of the subject

(Broadwell 2006:336). Some examples are given in (65).[28]

(65) **Many positional verbs show pluractional allomorphy/suppletion**

a.	*biniili-h*	'she sits'
	chiiya-h	'they two sit'
	binohli-h/*binohmáya-h*	'they sit'
b.	*takaali-h*	'it hangs'
	takooha-h	'they two hang'
	takohli-h/*takohmáya-h*	'they hang'

Following the diagnostic in §4.5.2, the subjects of these verbs are internal arguments.

The third piece of evidence for the internal-argument status of the ERG subjects of positional verbs is that they are compatible with applied dative subjects. When dative subjects (in the dashed box) are added to positional verbs, the result is a predicative possession interpretation, as shown in (66).

(66) **Positional verbs are compatible with applied dative subjects**

a. *Alikchi yat ofi i kahmayah.*
alíkchi-yat ofi **i**-kahmáya-h
doctor-NOM dog DAT-lie.PL:NG-TNS
'The doctor has dogs.' (G_08-09-17_87)

b. *Car palhkit a hikiya hátokósh nokówachitok.*
pro.1SG car palhki-t **a**-hikíya-h-aatok-oosh nokoowa-chi-tok
car fast-NOM 1SG.DAT-stand:NG-TNS-because-SS angry-CAUS-PST
'I had a fast car, so that made people mad.' (A_02-08-18_135)

Compatibility with dative subjects was argued in §4.5.3 to be a property of verbs without external arguments, supporting the claim that the argument of positional verbs is not an external argument.

Thus we have seen that the ERG subjects of positional verbs are good candidates for *low ergative* arguments, on account of their pluractional allomorphy/suppletion, their participation in the causative alternation, and the fact that they accept applied dative subjects. Regarding the remaining test for internal argument status—auxiliary selection—the data is a little more complex, and I briefly outline the pattern in

28. Many positional roots form two plural-subject non-active verbs. Those which end in *-máya* are in the n-grade, and consequently have a stative interpretation, as shown in (i.a). In contrast, those which end in *-li* need not be in the n-grade, and receive an eventive interpretation as in (i.b).

(i) **Two plural-subject verb stems formed from a single positional root**

a. *Ná imábachit onakma, ábiníni il ábinohmayat issah.*
naa imaabachi-t ona-km-a, aabiníini il-aa-**binohmáya**-t issa-h
teacher-NOM arrive-if-DS chair 1PL.ERG-LOC-sitting.PL:NG-PTCP quit-TNS
'When the teacher arrived, we would already be sitting in our chairs.' (J_06-21-16b_18)

b. *Imábachit onakma, oklí binohlíchih.*
imaabachi-t ona-km-a, okl=ii-**binohl**-iichi-h
teacher-NOM arrive-if-DS PL=1PL.ERG-sit.PL-FUT-TNS
'When the teacher arrives, we'll sit down.' (J_06-21-16b_21)

the following subsection. Those not concerned with the details can skip to §4.6.4, on quantifier verbs.

4.6.3 Auxiliary selection with positional verbs

Positional verbs can have eventive or stative readings. One way to force a stative reading is to put it in the n-grade (see §2.5.4). By contrast, positional verbs in the zero-grade (i.e. unmodified verbs), either have an obligatory eventive reading, or convey that the state is notably temporary. The n-grade and zero-grade forms and interpretations of some positional verbs are contrasted in (67).[29]

(67) **Zero-grade expresses eventivity; n-grade expresses stativity**

a.	*hikiiya-h*	'she stood up'
	hikíya-h	'she/it is standing'
b.	*biniili-h*	'she sat down'
	binílli-h	'she/it is sitting'
c.	*ittola-h*	'she/it fell'
	ittóla-h	'it is lying'
d.	*atta-h*	'she/it is there (right now)'
	átta-h	'she/it is there'

This contrast is relevant for auxiliary selection. Verbs in the n-grade can only appear with *taha*-class auxiliaries, as shown in (68a). However, verbs in the zero-grade can take either auxiliary, as shown in (68b-c) (much like motion verbs, cf. §4.6.1).

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29. Regarding the *kind* of stative reading found with verbs in the n-grade, it is clear that they need not refer to states that hold as a result of an event ('resultant states' or 'post states', on which see Kratzer 2000, Alexiadou and Anagnostopoulou 2008). For instance, the 'lying' state in (i.a) is not interpreted as having arisen through a falling event (cf. (67c)), and the possession states in (i.b-c) are not interpreted as having arisen through acquisition events—rather, the children in (i.b) grew that way, and the room in (i.c) was built that way.

(i) **N-grade has a stative reading without the implication of an event**

a. *… im anokfiliksho mat nosish ittolatok.*
imanokfilíkshoo-m-at nosi-sh ittóla-tok
idiot-DEM-NOM sleep-PTCP fall:NG-PST
'… the idiot is lying there sleeping.' (E_08-11-17_12)

b. *Alla kaníyohmi kat haksobis hochíto íshi-h*
alla kaniiyóhmi-k-at haksóbis hochíito íshi-h
child some-COMP-NOM ear big.PL get:NG-TNS
'Some kids have big ears.' (F_06-15-17_11)

c. *Chokka a ápisat takalih.*
chokka-a aapísa-t takáli-h
house-OBL window-NOM hang.NACT:NG-TNS
'The house has a window.' (A_02-06-18a_53)

For this reason, it seems that the n-grade, at least for these verbs, creates a 'result state' or 'target state' without the implication of an event. Other Choctaw verbs that show this zero-grade vs. n-grade pattern of interpretation include *fokka* 'put on (clothes)' vs. *fókka* 'wear' and *ikkana* 'learn' vs. *ikkána* 'know'.

(68) **N-grade positional verbs may only occur with *taha*-class auxiliaries**

a. Apota-t talohmáya-t taha-tok/*tahli-tok.
plate-NOM lie.PL:NG-PTCP finish.NACT-PST/*finish.ACT-PST
'The plates are sitting there.' (A_04-16-19_92, judgment)

b. Hikiiya-t taha-tok.
stand-PTCP finish.NACT-PST
'She fully stood up.' (B_04-15-19, judgment)

c. Hikiiya-t tahli-tok.
stand-PTCP finish.ACT-PST
'She's done standing up.' (B_04-15-19, judgment)

In light of these facts, we might only be justified in claiming that positional verbs *in the n-grade* have internal argument subjects. This more limited conclusion is in fact supported by the fact that we only ever see positional verbs take applied dative subjects when they are in the n-grade (Broadwell 2006:340) (e.g. (66)).

4.6.4 Quantifier verbs

Quantifier verbs in Choctaw uniformly take ERG subjects, as shown in (69).

(69) **Quantifier verbs take ERG subjects**

a. ii-lawa-h 'there's a lot of us'
1PL.ERG-many-TNS

b. ii-tóchchiina-h 'there's three of us'
1PL.ERG-three:GG-TNS

We can marshall three pieces of evidence for the claim that the subjects of quantifier verbs are internal arguments, despite their ERG clitics.

First, quantifier verbs participate in the causative alternation, marked by the presence/absence of *-chi*. Some examples are given in (70).

(70) **Many quantifier verbs participate in the causative alternation**

a. *mo̲ma-h* 'they are all'
mo̲mi̲-chi-h 'she does it to all of them'

b. *lawa-h* 'they are many'
lawaa-chi-h 'shes does it to many of them'

c. *toklo-h* 'they are two'
tokli̲-chi-h 'she does it to both of them"

The sentences in (71) give a broad impression of how the transitive quantifier verbs are used—they generally appear as non-finite adjuncts, and quantify over the object of the matrix clause. To capture the intuition, Broadwell (2006:227) offers the translation 'doing it to all/some/two/… of them', illustrated in (71a).

(71) **Transitive quantifier verbs as adjuncts that quantify over matrix clause object**

a. *Alikchi yat alla mo̲mi̲chit masálichitok.*
alíkchi-yat alla mo̲mí̲chi-t masaali-chi-tok
doctor-NOM child all.CAUS:NG-PTCP heal-CAUS-TNS
'The doctor cured all the kids.'
(lit. 'The doctor cured the kids, doing it to all of them.') (C_02-05-18_82)

b. Tákkon chíto lawaachi-t apa-t tahli-li-h.
apple many.CAUS-PTCP eat-PTCP finish.ACT-1SG.ERG-TNS
'I ate many apples.' (Broadwell 2006:229)

c. *Ofi átokli̲chit í lhiyohlitok.*
ofi aa-tokli̲chi-t ii-lhiyohli-tok
dog LOC-two.CAUS:NG-PTCP 1PL.ERG-chase-PST
'We chased the two dogs.' (C_02-02-18_118)

There is a lot to be said about the syntax of quantifier verbs—see §3.5.8 and Broadwell (2006:ch.14) for an overview of the Choctaw facts, and Munro (2017) for Chickasaw. However, it is relevant that the argument that gets quantified is the *subject* of the intransitive verbs but the *object* of the transitive verbs, implying that the ERG subject of the intransitive quantifier verbs is nonetheless an internal argument (by the logic in §4.5.4).

The second piece of evidence that the subjects of quantifier verbs are internal arguments is that quantifier verbs associate with ABS-class auxiliaries, and cannot go with ERG-class auxiliaries, as shown in (72).

(72) **Quantifier verbs may only occur with *taha*-class auxiliaries**

a. Okl=ii-lawa-t **taha**-h/*tahli-h.
PL=1PL.ERG-be.many-PTCP finish.NACT-TNS/*finish.ACT-TNS
'There are now a lot of us.' (B_04-15-19_38, judgment)

b. Okl=il-oshta-t **taha**-h/*tahli-h.
PL=1PL.ERG-be.four-PTCP finish.NACT-TNS/*finish.ACT-TNS
'There are now four of us.' (B_04-15-19_46)

The third piece of evidence for the internal argument status of the subjects of quantifier verbs comes from their ability to take applied dative subjects. Like positional verbs (§4.6.2), quantifier verbs with applied dative subjects receive predicative possession interpretations, as shown in (73).

(73) **Quantifier verbs are compatible with applied dative subjects**

a. *Hattak mat ná ataklama i̲ lawah.*
hattak-m-at naa atakláma i̲-lawa-h
man-DEM-NOM thing bother.NMZ DAT-many-TNS
'That man has a lot of troubles.' (I_08-09-17_83)

b. *Alla a̲ tochchínah.*
alla a̲-tóchchiina-h
child 1SG.DAT-three:GG-TNS
'I have three children.'. (E_10-14-18_IS01)

In this subsection I have presented three pieces of evidence that quantifier verbs instantiate the low ergative structure in (56), with the their subjects being internal rather than external arguments: they participate in the causative alternation, they select ABS-class auxiliaries, and they are compatible with applied dative subjects. Regarding the remaining diagnostic for internal argument status—pluractional allomorphy/suppletion—there is no evidence for this in the quantifier verbs. However, this is perhaps not surprising since quantifier verbs are themselves used to indicate the plurality of arguments, and therefore many of them are restricted to appearing with, singular arguments, plural arguments or arguments with other, more-specific cardinalities (e.g. *talhappi* 'be five').

4.6.5 Psych verbs undergoing absolutive promotion

Psych verbs usually mark their subject with DAT or ABS clitics. The relevant class here are those with ABS subjects, as in (74), discussed in §4.4.2.

(74) **Many psych verbs take ABS/DAT subjects**

a. sa-nokshoopa-h 'I'm scared'
1SG.ABS-scare.NACT-TNS

b. sa-hoofahya-h 'I'm ashamed'
1SG.ABS-ashamed-TNS

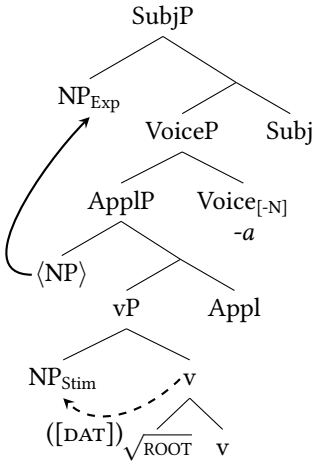
c. sa-noklhakacha-h 'I'm shocked'
1SG.ABS-shock.NACT-TNS

These verbs may also take a dative object argument which receives a 'stimulus' thematic, role as in (75).

(75) *Hattak mat hapi noktalhah.*
hattak-m-at hapi-noktalha-h
man-DEM-NOM 1PL.DAT-jealous-TNS
'That man is jealous of us.' (B_10-15-19b_35)

In §4.4.2 I proposed that ABS>DAT psych verbs have the syntactic structure in (76), repeated from (35).

(76) **Structure of ABS>DAT transitive psych verb**



However, in Tyler (2019a) I showed that in particular environments, the experiencer argument that is usually cross-referenced by an ABS clitic may, exceptionally, be cross-referenced by an ERG clitic. I called this change *absolutive promotion* after a similar process documented in Basque (Rezac 2008b, Arregi and Nevins 2012), and it can only occur when a stimulus argument is syntactically present. To illustrate, (77) shows that in the absence of a stimulus argument, the ABS experiencer clitic cannot be swapped for an ERG clitic. But (78) shows that once a dative stimulus argument is added, speakers have the option of swapping out the ABS clitic for an ERG one.

(77) **Absolutive promotion impossible in absence of object**

a. *Sa nokshópahǫ?*
sa-nokshoopa-h-ǫ
1SG.ABS-scare.NACT-TNS
'I'm scared.' (C_06-09-16_118)

b. *Nokshoopa-li-h.
scare.NACT-1SG.ERG-TNS
('I'm scared.') (C_06-09-16, judgment)

(78) **Absolutive promotion possible in presence of object**

a. *Chį sa nokshópah.*
chį-sa-nokshoopa-h
2SG.DAT-1SG.ABS-scare.NACT-TNS
'I'm not scared of you.' (H_06-11-16_51)

b. *Chį nokshópalih.*
chį-nokshoopa-li-h
2SG.DAT-scare.NACT-1SG.ERG-TNS
'I'm scared of you.' (H_06-11-16_50)

Note that in Tyler (2019a), I characterized absolutive promotion as a *repair operation* for avoiding vi-

olations of Choctaw's restrictions on clitic co-occurrence. Absolutive promotion does *appear* to have the character of repair when one considers pairs like (79)—this is because almost all combinations of DAT+ABS clitics are banned by Choctaw's clitic co-occurrence restrictions. However, the fact that absolutive promotion is not *strictly* limited to repairing morphologically ill-formed structures (cf. (78b)) speaks against the idea that it should be considered a repair.[30]

(79) **Absolutive promotion obligatory when non-promotion violates clitic co-occurrence restrictions**

a. *Chi-pi-nokshoopa-h.
2SG.DAT-1PL.ABS-scare.NACT-TNS
('We're scared of you.') (H_06-11-16, judgment)

b. *Í chi nokshópah.*
ii-chi-nokshoopa-h
1PL.ERG-2SG.DAT-scare.NACT-TNS
'We're scared of you.' (H_06-11-16_57)

Instead, the correct characterization of absolutive promotion seems to be that it becomes possible in the presence of a second, lower internal argument (the stimulus argument), and is not directly connected to Choctaw's PCC restrictions. See §5.4.1 for discussion of what PCC restrictions in Choctaw actually look like (they are not uniform across transitives—ABS>DAT psych verbs show a different pattern from DAT>ABS verbs).[31]

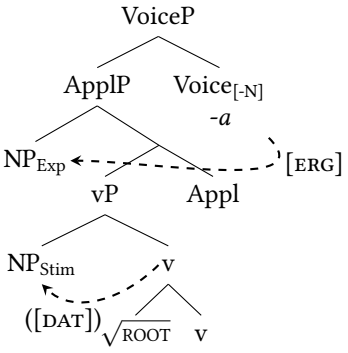
I propose that in absolutive promotion contexts, ergative case is assigned downwards to the closest argument in Voice's c-command domain, as schematized in (80).[32]

30. In Tyler (2019a) I refer to sentences like (78b) as instances of 'spurious repair', in which a PCC repair operation needlessly takes place to fix a perfectly acceptable structure.

31. The present analysis, in which absolutive promotion is divorced from PCC effects, has more in common with the analysis of Davies (1986), who claims that the ERG>DAT array is a generally-available alternative to the ABS>DAT array. However, the dialect Davies documents has, apparently, no PCC restrictions, making the non-relationship between PCC repair and absolutive promotion much more obvious.

32. In Tyler (2019a) I followed Arregi and Nevins's (2012) analysis of absolutive promotion in Western Basque, in which the promoted internal argument moves to Spec-VoiceP in order to receive ergative case (a 'raising-to-ergative' derivation). This movement operation has no interpretative consequences. This analysis, as far as I can tell, does not make any markedly different predictions from the current one.

(80) **Structure of transitive psych verb in absolutive promotion contexts**



See also Arregi and Nevins (2012) for the analysis of absolutive promotion in Western Basque which inspired this present analysis. Some of the Basque data is presented in §5.4.1.

We can show that the ERG subject in examples like (79b) is *not* an external argument, and does not start behaving like one on account of its newfound ERG-hood. (81) shows that both with and without absolutive promotion, transitive psych verbs select for *taha*-class auxiliaries.

(81) **Transitive psych verbs after absolutive promotion still take *taha*-class auxiliaries**

a. *Chi sa nokshópat tahah.*
chi-sa-nokshoopa-t taha-h
2SG.DAT-1SG.ABS-scare.NACT-PTCP finish.NACT-TNS
'I'm terrified of you.' (J_06-21-16a_91)

b. *Mary ish i nokshópat tahah.*
Mary ish-i-nokshoopa-t taha-h
Mary 2SG.ERG-DAT-scare.NACT-PTCP finish.NACT-TNS
'You're terrified of Mary.' (J_06-21-16a_85)

Furthermore, some psych roots, such as $\sqrt{\text{NOKSHOOP}}$, participate in the causative alternation, on which see §4.5.4. With causative psych verbs, the ERG argument assumes a causer role, as in (82).

(82) **Some psych verbs participate in the causative alternation**

a. *Nita hat sa nokshóblitok.*
nitah-at sa-nokshoob-li-tok
bear-NOM 1SG.ABS-$\sqrt{\text{SCARE}}$-ACT-PST
'The bear scared me.' (H_06-16-16_2)

b. *Shokka annopa mat sa nokshóblitok.*
shokka annópaa-m-at sa-nokshoob-li-tok
pig word-DEM-NOM 1SG.ABS-$\sqrt{\text{SCARE}}$-ACT-PST
'The story scared me.' (C_01-30-18_82)

This means that it is necessary to distinguish ERG arguments base-generated in Spec-VoiceP—agents and

causes—from the 'low' ERG internal arguments—experiencers.[33]

As an interesting point of comparison within the Muskogean family, Munro and Gordon (1982) and Munro (1999) show that Chickasaw has a similar operation to absolutive promotion, but with a potentially wider distribution. In Chickasaw, not only does something like absolutive promotion happen with optionally-transitive psych verbs (Munro 1999:281), but an ABS *or* DAT clitic may be 'promoted' to ERG-hood in the presence of a reflexive clitic.[34] (83) shows how the subject of *nokfonkha* 'remember' is typically ABS but becomes ERG in the presence of a reflexive object, and (84) shows the same thing for the typically-DAT subject of *alhkaniya* 'forget'.[35]

(83) **Chickasaw: ABS subject of transitive becomes ERG in presence of reflexive clitic**

a. holhchifo **chi**-nokfonkha-ta?
name **2SG.ABS**-remember-Q
'Do you remember her name?'

b. **ii**-tti-nokfonkha-tok
1PL.ERG-RECIP-remember-PST
'We remembered each other.' (Munro and Gordon 1982:85-87)

(84) **Chickasaw: DAT subject of transitive becomes ERG in presence of reflexive clitic**

a. talowa' **am**-alhkaniya-tok
song **1SG.DAT**-forget-PST
'I forgot the song.'

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33. It is not possible to have a psych root with an agent/cause *and* a stimulus argument simultaneously, as in (i).

(i) *Chim-ófi ish-i-sa-nokshoobli-tok.
2SG.DAT-dog 2SG.ERG-DAT-1SG.ABS-scare.ACT-PST
('You made me scared of your dog.')

The examples in (ii) show that the same restriction is found on English psych verbs (Pesetsky 1996, McGinnis 2000, 2002).

(ii) a. [Causer You] scared [Exp me].
b. [Exp I] am scared of [Stim your dog].
c. *[Causer You] scared [Exp me] of [Stim your dog].

34. Hardy (1988:264-266) shows that essentially the same thing happens in Creek.

35. In Tyler (2019a) I showed that, at least in the dialect I describe, the DAT subject of dative-subject transitives cannot be promoted to ERG, as in (84b) (i.e. 'dative promotion' is not attested). However, Davies (1986) provides some examples of DAT>ABS arrays alternating with ERG>DAT arrays, as in (i).

(i) **Marginal/dialectal: DAT subjects can undergo absolutive promotion**

a. Chi-am-ihaksi-tok.
2SG.ABS-1SG.DAT-forget-PST
'I forgot you.'

b. Chim-ihaksi-li-tok.
2SG.DAT-forget-1SG.ERG-PST
'I forgot you.' (Davies 1986:5)

This difference in the availability of absolutive promotion, between ABS>DAT psych verbs and DAT>ABS verbs, becomes important in §5.4.1. There, I argue that the availability of absolutive promotion goes with the initial c-command order of arguments.

b. ilim-alhkaniya-**li**-tok
REFL.DAT-forget-**1SG.ERG**-PST
'I forgot myself.' (Chickasaw, Munro and Gordon 1982:85-87)

The examples in (83b) and (84b) provide evidence that an 'exceptional ergative assignment' operation like absolutive promotion is available in Chickasaw, though it is triggered in slightly different syntactic environments.[36]

We have therefore seen that psych experiencers are good candidates for *low ergative* arguments. Despite being indexed (sometimes) with an ERG clitic, they still select *taha*-class auxiliaries and participate in the causative alternation as though they were an internal argument. Regarding the other two tests for internal argument status, psych experiencers do not, to my knowledge, ever condition pluractional allomorphy, nor do they admit applied dative subjects (cf. (36)). On this second point, I proposed in §4.4.2 that psych verbs are incompatible with applied dative subjects because of how psych verbs are built: specifically, psych verbs introduce their experiencer argument as the specifier of an ApplP. There is then a general prohibition on stacking an ApplP on top of another ApplP (though this remains pure stipulation at this stage, see chapter 5 for more on applied arguments in Choctaw).

4.6.6 Interim summary: the suspects for low ergative

I have proposed that unergative subjects are uniformly doubled by ERG clitics, while unaccusative subjects (including themes and psych experiencers), may be doubled by ABS, DAT *or*, crucially, ERG clitics. Internal arguments come to be doubled by ERG clitics in the event that a specifierless Voice head assigns ergative case. When this happens, ergative is assigned to the closest argument in Voice's c-command domain. Exceptional downwards ergative assignment (from a specifierless Voice head) is a property associated with certain roots, such as the positional and quantifier roots, but it can also be triggered in particular syntactic environments, such as how absolutive promotion is triggered in the context of a stimulus argument.

The table in (85) shows how quantifier, positional, motion and psych verbs behave as though their subjects were *internal* arguments, like the subject of a canonical non-active verb, rather than external arguments like the subjects of canonical transitives and unergatives.

36. The Choctaw speakers I consulted did not share consistent judgments on how sentences like 'I forgot myself' would be expressed, but the Choctaw equivalent to (84b) was accepted by some. More research on this topic is required.

(85) **How potential 'low ergative' verbs perform on the tests for internal-argument-hood**

verb type	Subj. agr.	Caus. alt.?	Rejects ERG-class aux.?	Pl. allomorphy?	DAT subj. OK?
non-active	ABS	Y	Y	Y	Y
quantifier	ERG	Y	Y	N	Y
positional (n-grade)	ERG	Y	Y	Y	Y
motion	ERG	(N)	(N)	Y	%
psych	ABS/ERG	Y	Y	N	N
active/unergative	ERG	N	N	N	N

Note that there *are* cases where particular suspects for low ergative verbs seem to behave more like an active/unergative—that is, the cell contains an 'N' rather than a 'Y'. In some cases these 'N's have a simple explanation: the fact that quantifier and psych verbs fail to show pluractional allomorphy is an interesting lexical generalization, but the pluractional allomorphy diagnostic is unidirectional, and the fact that these verbs do not exhibit this allomorphy is not revealing. Regarding the finding that psych verbs reject DAT subject, this is very likely related to the fact that they take dative *objects* instead. The reader should look at the relevant subsections above for further details. However, the 'N's in the 'motion verb' row of the table are more troubling: in particular (a) why should motion verbs resist applied dative subjects (at least in the Choctaw dialect I investigated)? And (b) why should so few motion verbs participate in the causative alternation? These point to the possibility that motion verbs straddle the unaccusative-unergative divide in Choctaw, and are possibly in the process of changing category. I leave this issue here.

In addition to the classes discussed here, there are a number of other verbs with ERG subjects that *could* be argued to be internal arguments, on purely semantic grounds. For instance, (86) shows that various verbs of perception, bodily emission, sound emission, knowledge and emotion have (or may have) their subjects doubled with ergative clitics (*ish-* is the 2SG ERG clitic). These are all semantic classes that, in some subset of the world's languages, display unaccusative-like behavior (see Munro and Gordon 1982 for similar discussion in Chickasaw, cf. (14)).

(86) **ERG-subject verbs that *could* be unaccusative, on purely semantic grounds**

a. ish-hák̲lo-h — 'you heard it'
2SG.ERG-hear:NG-TNS

b. ish-hok̲so-h — 'you farted'
2SG.ERG-fart-TNS

c. ish-habishko-h — 'you sneezed'
2SG.ERG-sneeze-TNS

d. ish-oola-h — 'you made a sound'
2SG.ERG-make.sound-TNS

e. ish-ikkán̲a-h — 'you know it'
2SG.ERG-know:NG-TNS

f. ish-nokoowa-h — 'you are angry'
2SG.ERG-angry-TNS

Which other verbs involve low ergative derivations (if any), and how they might be diagnosed, is a topic for future research.

4.7 Conclusion and implications

We have seen in this chapter that Choctaw ABS clitics cross-reference a heterogenous variety of internal arguments within the verbal domain, as well as inalienable possessors within the nominal domain. This supports the claim that ABS clitics do not realize any particular case value, but rather spell out arguments which lack ergative or dative case values. ERG clitics, by contrast, index not only external arguments but a handful of internal arguments too. They were diagnosed as being internal arguments on the basis of several morphosyntactic diagnostics. Ergative case was therefore analyzed as a structural case assigned from Voice, either to its specifier position, or, in some syntactic configurations, to the closest argument it c-commands.

In the following three subsections, I investigate some issues and questions that spring from the main finding of this chapter. Firstly, can the ergative-assignment relation between a specifierless Voice and an ergative-receiving internal argument be *intervened*? I argue in §4.7.1 that it can, and we see the effects of this when applied dative subjects are added to low ergatives. Secondly, the absolutive promotion pattern discussed in §4.6.5 is reminiscent of a *dependent ergative* pattern—that is, an internal argument acquires ergative case in the presence of a second internal argument. In §4.7.2 I discuss the implications of finding a depenedent-ergative-like *emergent ergative* pattern in a language that otherwise seems to lack dependent ergative. Finally, in §4.7.3 I provide some further instances of emergent ergative patterns in other non-dependent-ergative languages.

4.7.1 Applied datives block downwards ergative assignment

In §4.6, we saw that verbs with low ergative subjects can have applied dative subjects added to them. An example is provided below. In (87a), we see that the positional verb *takohmá̲ya* 'hang (pl.)' indexes its subject with an ERG clitic.[37] And in (87b), we see that this verb is compatible with having an applied dative subject (*alla kániiyohmikat* 'some kids', in the dashed box) added to it.

37. The family of verbs formed from the root $\sqrt{\text{TAKA}}$ are often translated as 'hang', but as the examples in (87) show, this does not cover their range of meanings. It is often used when one thing is physically attached to another (as in (87b)), and when used as an auxiliary it gives an in-progress or incomplete reading, as in (87a).

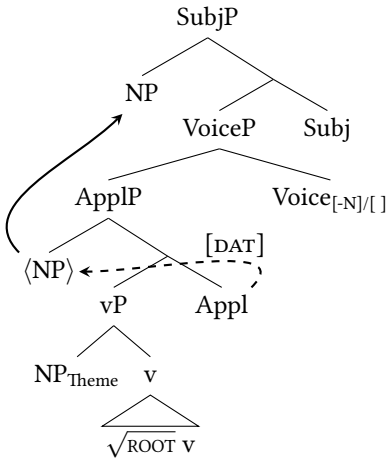
(87) **Low ergative verbs are compatible with applied dative subject**

a. *Biloxi ilhkólish oklí takohmayahma hinat apissat tahatok.*
Biloxi ilhkooli-sh okl=**ii**-takohmáya-hm-a hina-t apissa-t
Biloxi go.PL-PTCP PL=**1PL.ERG**-hang.PL:NG-when-DS road-NOM straight-PTCP
taha-tok
finish.NACT-PST
'As we were driving down to Biloxi, the road straightened out.' (A_10-16-18_81)

b. *Alla kaníyohmi kat haksobis okla i takohmayah, hihókakósh okla haklahí kiyoh.*
alla kaniiyóhmi-k-at haksóbis okla=**i**-takohmáya-h, hi-h-oo-kak-oosh
child some-COMP-NOM ear PL=**DAT**-hang.PL:NG-TNS LV-TNS-LINK-although-SS
okla=hakl-ahii-kiyo-h
PL=listen-MOD-not-TNS
'Some kids have big ears, but they won't listen.' (F_06-15-17_13)

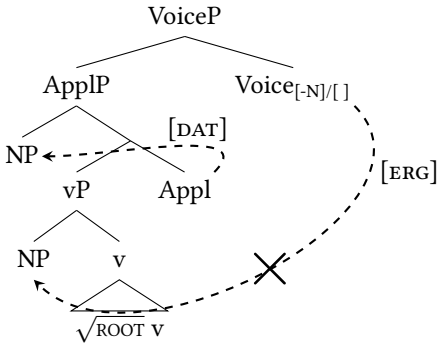
The syntactic analysis of sentences like (87b) is given in (88)—see chapter 5 for more details.

(88) **Structure of non-active verb with applied dative subject**



In (88), a dative argument, base-generated in Spec-ApplP, now separates Voice from the theme argument—that is, the theme is no longer the closest argument that Voice c-commands. This invites the question: does Voice still assign ergative case when there is an applied dative argument in the way, or is the theme argument caseless? I will first present an argument that the intervening dative argument does indeed block the downwards assignment of ergative case, as in (89), before showing that the same situation holds in Basque.

(89) **Proposal: applied dative argument blocks downward assignment of [ERG] from Voice**



How to determine whether or not the theme argument in a sentence like (87b) has an ergative case value? Most of the time, there is a fairly easy of way of checking whether an argument has an ergative case value—you simply ensure that the argument in question is 1st or 2nd-person, and see whether it's indexed by an ERG clitic or an ABS/DAT clitic. However, when we have a positional or quantifier verb with an applied dative subject, this test appears to be inapplicable: it is impossible to make the non-dative, theme argument of these clauses 1st or 2nd-person. Whether we use ABS clitics, as in (90b-b) or ERG clitics, as in (90c), the resulting verb form is *always* ungrammatical.

(90) **Low ergative with applied dative subject: clitic-doubling theme argument always leads to unacceptability**

a. Theme as ABS
   *__Chi__-__im__-átta-h.
   2SG.ABS-DAT-be.SG:NG-TNS
   ('He has you.')

b. Theme as ABS; clitic order reversed
   *__I__-__chi__-átta-h.
   DAT-2SG.ABS-be.SG:NG-TNS
   ('He has you.')

c. Theme as ERG
   *__Ish__-__im__-átta-h.
   2SG.ERG-DAT-be.SG:NG-TNS
   ('He has you.') (Tyler 2019a)

One potential explanation for this ungrammaticality is semantic: since a positional or quantifier verb with an applied dative subject has a *predicative possession* interpretation (on which see §5.5.2), we might imagine that such clauses are simply incompatible with 1st or 2nd-person objects. I do not believe this is the reason for their ungrammaticality, since Choctaw furnishes speakers with at least one other way of expressing predicative possession—the transitive verb *ishi* 'have'—and this is perfectly acceptable with a

1st/2nd-person object, as in (91).

(91) Chi-ishi-li-h.
2SG.ABS-have-1SG.ERG-TNS
'I have you.' (A_10-18-19, judgment)

So if we can rule out a semantic explanation, what explains the impossibility of having a 1st/2nd-person theme argument in the presence of a dative applied argument? I argue that it is the result of Choctaw's *clitic co-occurrence restrictions*—a.k.a. a particular flavor of *Person Case Constraint* effect. And this is particularly instructive for the question at hand (whether or not the theme has an ergative case value), because these restrictions hold *only* between pairs of ABS and DAT clitics, and do *not* hold between pairs of ERG and DAT clitics.

That Choctaw imposes restrictions on the co-occurrence of ABS and DAT clitics is illustrated by the examples in (92a-b). (92a) shows an ABS>DAT verb *i-nokshoopa* 'be scared of' with an illegal clitic cluster, and (92b) shows a DAT>ABS verb *im-ihaksi* 'forget' with an illegal cluster. By contrast, (92c) shows that the equivalent ERG-DAT cluster is perfectly well-formed.

(92) **DAT+ABS clitic clusters are restricted by PCC; ERG+ABS clitic clusters are not restricted**

a. DAT-ABS
*Chi-**pi**-nokshoopa-h.
2SG.**DAT**-1PC.**ABS**-scare.NACT-TNS
('We are afraid of you.')

b. ABS-DAT
*Chi-**pim**-ihaksi-h.
2SG.**ABS**-1PC.**DAT**-forget-TNS
('We forgot you.')

c. ERG-ABS
Ii-chi-aapil-aachi-h.
1PL.**ERG**-2SG.**ABS**-help-FUT-TNS
'We will help you.' (Tyler 2019a)

See §5.4.1 and Tyler (2019a) for more detailed discussion of Choctaw's clitic cooccurrence restrictions.

The fact that that the theme argument in (90) cannot be indexed with an ERG clitic is therefore, fairly straightforwardly, evidence that it does not have an ergative case value. We would not expect the availability of an ERG clitic to be restricted by Choctaw's clitic co-occurrence restrictions, and so the only remaining explanation for why it cannot be indexed by an ERG clitic is that its case feature is *not* valued as [ERG].[38]

38. Two qualifications to this analysis are in order. Firstly, if the theme argument really did have an ergative case value, it would represent a unique instance of an argument that is *not* the highest argument in its clause having an ergative case value. Given the uniqueness of this configuration, we might want to be more cautious in drawing up expectations for its behavior. Secondly, Tyler (2019a) shows that, for some speakers, 1SG>2 configurations are acceptable with DAT>ABS verbs (they allow *chi-(s)am-ihaksih* 'I forgot you'). I do not know whether any speakers allow this same configuration with positional or quantifier verbs (e.g. *chi-(s)am-ą́tta-h* 'I have you').

In sum, I have argued that there is evidence that when an applied dative argument intervenes between a Voice head and the theme argument, Voice is no longer able to assign ergative case to the theme. This is in keeping with cross-linguistic findings about the 'intervener' status of dative and oblique arguments (cf. Chomsky 2001, Holmberg and Hróarsdóttir 2003, Hiraiwa 2005, Preminger 2009).[39]

Before moving on, I would like to draw the reader's attention to a near-parallel phenomenon in Basque, documented by Albizu and Fernández (2006) and Arregi (2018). The first thing to note is that the raising verb *irudi* 'seem' exceptionally assigns ergative case to its subject, as in (93a). This seems essentially parallel to the 'low ergative' verbs identified in this chapter. What's particularly striking is what happens when a dative experiencer argument is added to this verb, as in (93b): the previously-ergative theme argument *Olatz* is now absolutive.

(93) **Basque: dative argument blocks ergative assignment to theme**

a. Olatzek pozik dirudi.
Olatz.**ERG** happy seems
'Olatz seems happy.'

b. Mireni Olatz pozik iruditzen zaio.
Miren.DAT Olatz.**ABS** happy seem.IMPF AUX
'Olatz seems happy to Miren.' (Arregi 2018:11)

If I am correct that the addition of a dative applied argument to low ergative verbs in Choctaw deprives the theme of its ergative case value, then the Basque and Choctaw facts are exactly parallel.[40]

4.7.2 Consequences for the dependent theory of ergative

In this section, I consider the findings of §4.6.5—the incidence of absolutive promotion on transitive psych verbs—in a wider theoretical perspective. Specifically, I show how it can contribute to the debate surrounding *dependent ergative case*.

One of the main motivations for the existence of dependent ergative case comes from applicatives of unaccusatives, as in (20), or the example in (94), from Baker and Bobaljik (2017).

(94) **Yup'ik: ABS subject of unaccusative becomes ERG in presence of applied argument**

a. Maklagaq kit'e-llru-uq.
bearded.seal.ABS sink-PST-INDIC.3SG
'The bearded seal sank.'

39. There is an unresolved question here, regarding the general ability of dative arguments to intervene *case-assignment* relations. Most of the cross-linguistic evidence involves dative intervention of agreement dependencies or movement steps, but not of case-assignment relations.

40. The fact that Basque has some unaccusative subjects that nonetheless receive ergative case features was discussed in §4.3.2—see examples like (22).

b. Ing-**um** maklagaq kic-i-lq-aa.
that.one-**ERG** bearded.seal.ABS sink-APPL-PST-INDIC.3SG>3SG
'The bearded seal sank on that guy.' (Woodbury 1981:332-3 in Baker and Bobaljik 2017)

In (20) and (94), an internal argument acquires ergative case in the presence of a case-competitor noun phrase. This is one of the best pieces of evidence for the necessity of a dependent-ergative system—see §4.3.2.

But here's the catch: in §4.6.5 we saw a very similar pattern in Choctaw, a language in which ergative case, in all other circumstances, does *not* depend on the presence of a clausemate noun phrase. To illustrate, in (95a) the lone internal argument of *nokshoopa* 'be scared' is ABS. But as soon as a dative stimulus argument is added, that internal argument can now become ERG, as in (95b) (in this case, the internal argument *must* become ERG, else Choctaw's PCC restriction is violated, see §5.4.1, Tyler 2019a).

(95) **Dependent-ergative-like 'emergent ergative' alignment in Choctaw psych verbs**

a. Chi-nokshoopa-h-o̲?
2SG.ABS-scare.NACT-TNS-Q
'Are you scared?'

b. Is-sa̲-nokshoopa-h-o̲?
2SG.ERG-1SG.DAT-scare.NACT-TNS-Q
'Are you scared of me?'

We would not want to characterize Choctaw ergative as having a generally dependent-ergative-like distribution. Indeed I have argued at length in this chapter that Choctaw ergative should be analyzed as *structural* (i.e. assigned from a functional head). Therefore, whatever causes this unusual promotion operation *cannot* be a consequence of Choctaw having dependent ergative case. What this means, for a general theory of ergative case, is that the configuration that is widely-recognized as the best evidence for dependent ergative—ergative on internal arguments of transitive unaccusatives—*is not necessarily evidence for dependent ergative*. The dependent-ergative-like emergent ergative pattern needs to have at least one other source cross-linguistically, in order to account for its incidence in languages like Choctaw.

In the final section of this chapter, I provide some other dependent-ergative-like patterns, including emergent ergative, that arise in languages with non-ergative alignment cross-linguistically: that is, where an internal argument is marked. Taken together, these suggest that the incidence of dependent-ergative-like patterns outside of canonically-ergative languages cannot be reduced to parochial facts about Choctaw, but may require some deeper explanation (what this explanation may be, I set aside for now).

4.7.3 Dependent-ergative-like effects in other active languages

I this section I provide four further documented examples, from languages whose alignment is *active*, where a transitive unaccusative verb has one of its arguments exceptionally marked ergative where it would ordinarily be absolutive—i.e. an emergent ergative pattern. The examples are from Western Basque, Alabama (Muskogean), Creek (Muskogean) and Timucua (extinct isolate, in contact with Muskogean). The existence of this pattern in these active languages casts doubt on the idea that it always stems from the presence of dependent ergative case in a language. Following this, I discuss how *secundative* alignment in ditransitives is substantively similar to the dependent-ergative-like pattern, yet is rarely marshalled as evidence in favor of dependent case.

The first example of an emergent ergative pattern in a language with active alignment comes from Western Basque. Some dialects show a dependent-ergative-like effect in certain transitive psych verbs. (96a) shows a transitive psych verb with a dative experiencer argument and an absolutive theme argument. But when the absolutive argument is 1st/2nd-person, as in (96b), it becomes ergative—ergative agreement appears on the auxiliary and ergative case appears on the NP itself (see Arregi 2004, Rezac 2008b, Arregi and Nevins 2012 for discussion of Basque absolutive promotion, a.k.a. absolutive displacement).[41]

(96) **Basque: 1st/2nd-person ABS argument becomes ERG in presence of dative argument**

a. Itxaso-ri hura gustatzen zaio.
Itxaso-DAT him.**ABS** liking AUX.3DAT
'Itxaso likes him.'

b. Itxaso-ri zu-**k** gustatzen diozu.
Itxaso-DAT you-**ERG** liking AUX.3DAT.2ERG
'Itxaso likes you.' (Rezac 2008b:81)

The fact that the emergence of ergative on the theme argument is licit only in PCC-violating contexts is remarkable, and many authors propose that absolutive promotion should be characterized as a PCC repair operation (Rezac 2008b, 2010a, 2011 et seq., Arregi and Nevins 2012). However, simply because a phenomenon is referred to as a 'repair' does mean we should consider it totally separate from 'normal' case-assignment—the label of 'repair' simply constitutes an analysis of an exceptional case-assignment pattern.[42]

Further examples of emergent ergative patterns in active languages come from comparative constructions in Alabama and Creek, both Muskogean languages. The (a) examples below show that property-

41. Ergative case-marking on NPs is optional in many varieties of Western Basque. This is a point of dialectal and idiolectal variation.

42. Karlos Arregi (p.c.) informs me that, at least idiolectally, some speakers will allow absolutive promotion outside of PCC repair environments (i.e. in the presence of a 3rd-person theme argument). He suggests that for these speakers the theme may be projected as a canonical ergative/external argument.

Note also that Chinook shows a very similar 'PCC repair' pattern to Choctaw in transitive unaccusatives (the data comes from Rezac 2010a, Silverstein 1976).

denoting verbs like 'be tall' and 'be sick' will typically index their lone argument with ABS agreement/clitics (the cited authors use different terminology, which I change here to ease comparison). The (b) examples show that in comparative constructions, when an additional argument is indexed on the verb as a comparison standard, the theme argument must now be indexed by ERG agreement/clitics instead.

(97) **Creek: ABS subject becomes ERG in presence of applied object**

a. **ca**-má:h-i:-t ô:-s
1SG.ABS-tall-DUR-T be.FGR-IND
'I'm tall.'

b. is-cim-má:h-**ay**-i:-t ô:-s
INST-2.ABS-tall-**1SG.ERG**-DUR-T be.FGR-IND
'I'm taller than you.' (Martin 2011:177, reglossed)

(98) **Alabama: ABS subject becomes ERG in presence of applied object**

a. **Cha**-hoopa-hchi.
1SG.ABS-be.sick-ASP
'I'm sick.'

b. Is-chi-n-hóhpa-**li**-hchi.
PER-2SG.ABS-DAT-sick:HGR-**1SG.ERG**-ASP
'I'm sicker than you.' (Hardy and Davis 1993:470, reglossed)

A fourth example of an active language with a dependent-ergative-like (emergent ergative) pattern in transitive unaccusatives is Timucua, an extinct isolate once spoken in Florida, which would have been in contact with one or more Muskogean languages (data from Broadwell 2016, 2017). The examples in (99) illustrate the language's active agreement system.

(99) **Timucua: active alignment**

a. Uti-qua hime-ta-**nica**-la.
land-LOC return-PRES-1PL.ERG-DECL
'We returned by land.'

b. **Ni**-nihi-**bo**-habe-le.
1PL.ABS-die-PL.ABS-IRR-DECL
'We will die.'

c. Paha-nica areco-ta-**nica**-la.
house-1PL.POSS build-PRES-1PL.ERG-AFF
'We build our house.' (Broadwell 2016)

With certain verbs, a dependent-ergative-like pattern emerges. (100a) shows that when the verb *nahiabo* 'know' takes a 3rd-person object, the subject controls absolutive agreement. Yet when there is a 1st/2nd-person object, as in (100b), the object now controls absolutive agreement and the subject controls ergative

agreement instead.[43]

(100) **Timucua: ABS subject becomes ERG in presence of 1st/2nd-person object**

a. Mare-ma **chi**-nahiabo-haue-ti-la.
never-ART 2SG.ABS-know-IRR-NEG-AFF
'You will never know (it).'

b. chabeta-co ta=ni-nahiabo-bi-**ch**-o?
where-INDEF away=1SG.ABS-know-PST-2SG.ERG-Q
'Where did you know me?' (Broadwell 2016)

I cannot provide an account of emergent ergative patterns such as those in Choctaw, Basque, Alabama, Creek and Timucua, but, since these languages all have *active* alignment systems, it is clear that dependent ergative case is not the culprit.[44]

Finally, I have left unresolved the question of what exactly *does* cause the emergent ergative pattern. I cannot offer a complete answer in this paper, but it is instructive to point out that it is not as unique as it first appears. The 'emergent' case pattern, whereby the introduction of a second argument into some local domain changes the expression of case and/or agreement of the first argument, is a more general phenomenon. Specifically, we find a very close analogue in languages which show *secundative* alignment in *derived* ditransitives.

Secundative alignment (also known as *primative-secundative* or *primary-object* alignment) is defined in (101). See Dryer (1986), Haspelmath (2005, 2015), and Malchukov et al. (2010) for typologically-oriented discussion of argument alignment in ditransitives.

(101) **Secundative alignment**

A system in which the object of a monotransitive verb is marked like the recipient-like argument in a ditransitive, to the exclusion of the theme-like argument.

Secundative alignment in a case system is illustrated with the Yoruba examples in (102): in monotransitive verbs, the object follows the verb and is unmarked, as in (102a). But in a class of ditransitive verbs, the recipient-like argument behaves like the object of a monotransitive, following the verb and being unmarked, while the theme-like argument is introduced by a special functional element, as in (102b)

(102) **Yoruba: secundative case-marking**

a. adé pa ejò náà
Adé kill snake DET
'Ade killed the snake.'

43. Broadwell (2016, 2017) states that 3rd-person objects generally force transitive subjects to control absolutive agreement, but (99c) shows that this is not always the case.

44. See Tyler (2019a) for an account of the Choctaw pattern that relates it PCC repair. However, I argued in §4.6.5 that PCC repair cannot be responsible.

b. bọ́lá fún adé ní ìwé
Bola give Ade SEC book
'Bola gave Ade a book.' (Atoyebi et al. 2010)

Secundative alignment is also found in agreement systems. The Huichol examples in (103) illustrate this: in (103b) the recipient-like argument is indexed by verb agreement, just like the monotransitive object in (103a), while the theme-like argument goes unindexed.

(103) **Huichol: secundative agreement**

a. Uukaraawiciizɨ tɨ̵ri me-**wa**-zeiya.
women children 3PL-3PL-see
'The women see the children.'

b. Nee tumiini uukari ne-**wa**-ruzeiyastɨa.
I money girls 1SG-3PL-show
'I showed the money to the girls.' (Comrie 1982 in Haspelmath 2015:23)

We can now turn to the cases that are most conceptually similar to the emergent ergative pattern: secundative alignment in *derived* ditransitives—in particular, monotransitives that have had an applied argument added to them (see Malchukov 2013 for discussion of secundative alignment with respect to derived ditransitives in particular). In these clauses, just as in the emergent ergative configuration, the pre-existing theme argument receives a new or different case just when an applied argument is added. An instance of secundative alignment in a derived ditransitive is shown in (104), from Central Alaskan Yupik. (104a) shows a monotransitive verb agreeing with its object, which has absolutive/unmarked case. In (104b), we see that when that same verb has an applied argument added (here, an adversative argument), the verb now agrees with the applied argument (a null 1st-person singular element), and does *not* agree with the theme. The theme also carries an oblique case morpheme (glossed 'ABM').

(104) **Central Alaskan Yupik: secundative alignment in a derived ditransitive**

a. Neqe-m neqcaq ner-**aa**.
fish-REL.SG bait.ABS.SG eat-IND.3SG.3SG
'The fish ate the bait.'

b. Ner-i-**anga** neqe-m neqca-mnek.
eat-ADV-IND.3SG.1SG fish-REL.SG bait-ABM.1SG.SG
'The fish ate my bait on me.' (Miyaoka 2015:1192 in Malchukov 2017:10)

I do not provide an account of secundative alignment here. What is important is that the 'case switch' from absolutive to ergative that we see in the emergent ergative pattern is not unique: we see a similar 'case switch' in derived ditransitives in languages with secundative alignment, from accusative to oblique.

Chapter 5

Datives and applicatives

The previous chapter focused on Choctaw's ERG(ative) clitic paradigm, arguing that those arguments indexed by ERG clitics have an ergative case value (that is, their [K] feature has an [ERG] value). This chapter takes a similar approach to Choctaw's DAT(ive) clitics, arguing that they too are differentiated by a dedicated dative case value. (1) provides a selection of sentences featuring dative objects, and (2) provides some sentences with dative subjects. In each case, the dative argument indexed by a DAT clitic on the verb is enclosed in a dashed box. In all of these sentences, the dative argument takes on a variety of 'oblique' thematic roles such as beneficiaries, recipients, experiencers and psychological stimuli, some of which are selected by the verb and some of which are non-selected, applied arguments.

(1) **Dative objects**

a. *Tówa ya alla i pilálitok.*
tóowa-ya alla i-pilaa-li-tok
ball-OBL child DAT-throw-1SG.ERG-PST
'I threw the ball to the kid.' (E_06-06-17_27)

b. *Piláshásh katímina chik sa payotok?*
piláashaash katíimi-na *pro.2SG* *pro.1SG* chik-**sa**-páy-o-tok[1]
yesterday do.what:LG-and.DS 2SG.IRR-1SG.DAT-call:LG-NEG-PST
'Why didn't you call me yesterday?' (C_02-05-18_237)

c. *Mary at im alikchi i talówáchih.*
Mary-at im-alíkchi **i**-taloow-aachi-h
Mary-NOM DAT-doctor DAT-sing-FUT-TNS
'Mary will sing for her doctor' (N_06-07-17_31)

d. *Ofi ma i sa nokshópah.*
pro.1SG ofii-m-a i-sa-nokshoopa-h
dog-DEM-OBL DAT-1SG.ABS-scare.NACT-TNS
'I am scared of that dog.' (A_08-10-17_19)

1. *Katíim-na* translates literally to something like '…and doing what' but is translated more naturally as 'why'.

(2) **Dative subjects**

a. *John at im achokmah.*
John-at im-achokma-h
John-NOM DAT-happy-TNS
'John is happy.' (A_02-06-18b_42)

b. *Am ofi akǫ am ittolatok.*
pro.1SG am-ófi-ak-ǫ am-ittola-tok
1SG.DAT-dog-FOC-OBL.SP 1SG.DAT-fall-PST
'I dropped my DOG.' (E_06-16-17_74)

In this chapter I also consider Choctaw's non-dative applied arguments, which are doubled by ABS clitics and appear alongside applicative prefixes (e.g. LOCative, SUPeressive, COMitative). Some examples, with the applied argument in a dashed box, are given in (3).

(3) **Non-dative applied arguments**

a. *Chokka balít ákaníyalitok.*
chokka balii-t **aa**-kaniiya-li-tok
house run-PTCP LOC-leave-1SG.ERG-PST
'I ran away from the house.' (C_01-31-18_89)

b. *Issi ǫ nosinna!*
pro.2SG *pro.1SG* is-si-**o**-nosi-nna
2SG.ERG-1SG.ABS-SUP-sleep-NEG.IMP
'Don't fall asleep on me!' (C_06-14-17_114)

c. *Mary im allat sabá tǫksalih.*
Mary im-alla-t *pro.1SG* sa-**baa**-tǫksali-h
Mary DAT-son-NOM 1SG.ABS-COM-work-TNS
'Mary's son is working with me.' (A_08-19-17_48)

As we will see, non-dative applied arguments pattern syntactically like *some* dative applied arguments.

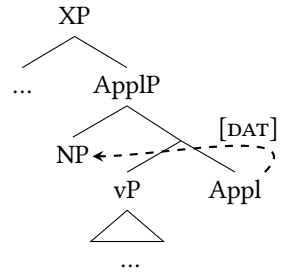
In addition to the claim that DAT clitics index arguments with a dative case value, I make two further claims. First, dative case can be assigned to NPs in two positions within the extended projection of the verb: it can be assigned from Appl to Spec-ApplP, or from v to Spec-vP (i.e. the standard internal argument position).[2] The two modes of dative assignment are schematized in (4).[3]

2. And if we broaden our focus to the nominal domain, there appear to be two dative-assigning heads there too—see §2.6.1.

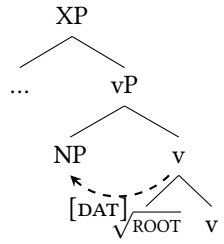
3. See §1.3.2 for discussion of whether the internal argument is a complement or specifier of v. This question is also implicated in the question of whether the root is a complement or adjunct to v.

(4) **Two configurations for dative-assignment**

a.



b.



The fact that dative arguments are base-generated in (at least) two different positions within the extended projection of the verb makes sense under the analysis that DAT clitics spell out a dative case value—dative is known to often have multiple sources within a single language.

Second, I claim that some applied arguments (dative and non-dative) are able to undergo A-movement to the subject position, while other applied arguments (again, both dative and non-dative) are unable to do so. The distinction between the two kinds of applied argument is empirically motivated by the fact that *some* applied arguments may surface as subjects when added to non-active verbs, while other dative/applied arguments will only ever surface as objects. The sentences in (5) illustrate applied dative subjects and objects respectively.

(5) **Non-active verb with …**

a. Applied dative subject

Katie at jack i kochófatok.
Katie-at jack i-kochoofa-tok
Katie-NOM jack DAT-bend.NACT-PST
'The jack bent on Katie.' (A_10-18-18_49)

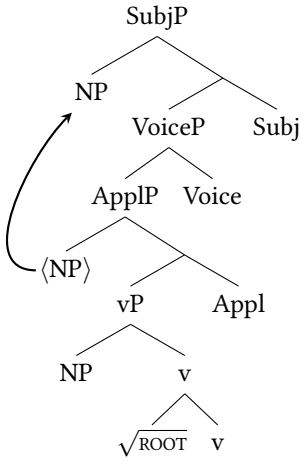
b. Applied dative object

Katie ano talit i kochófatok.
Katie-ano tali-t i-kochoofa-tok
Katie-OBL.CONTR metal-NOM DAT-bend.NACT-PST
'The metal bent for Katie.' (A_10-18-18_51)

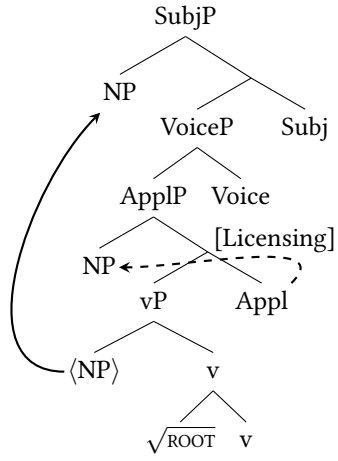
The structures I propose for when applied arguments are added to non-active verbs are provided in (6). The structure in (6a) shows an 'advancing' configuration (in the terminology of McGinnis 2008): the applied argument, which is the highest argument, happily advances to the subject position, driven by an EPP feature on Subj (§2.3.1). By contrast, the structure in (6b) shows a 'skipping' configuration: the lower argument (the theme) skips over the applied argument to become the subject instead.

(6) **Advancing and skipping configurations**

a.



b.



As the trees show, I attribute the subject vs. objecthood of the applied argument to whether or not the Appl head forms a 'licensing' relation with the argument in its specifier. Licensed arguments, as in (6b), are prevented from undergoing further A-movement; while unlicensed arguments can undergo A-movement. Licensing, as I employ it here, can therefore be thought of as a bit like Chomsky's (1981) 'Case-licensing', except without any relation to morphological case or abstract Case. The relevant similarity is that licensing and 'Case-licensing' both prevent an argument from participating in certain kinds of syntactic relations (thanks to the *Activity Condition*).

I also show that whether or not the Appl head licenses Spec-ApplP correlates with the *thematic role* that Appl assigns to Spec-ApplP. Unlicensed applied arguments (i.e. those that participate in advancing configurations) have a disjoint and distinct set of roles from licensed applied arguments (i.e. those that participate in skipping configurations). Using this correlation, I develop a taxonomy of Appl heads in Choctaw, where each of the different Appl head can be shown to have their own morphological properties (exponence and case-assignment), semantic properties (thematic role assignment), and syntactic properties (licensing).

In the process of arguing for these claims, I examine in detail the morphology and interpretation of Choctaw's dative and applied arguments. The remainder of the chapter is laid out as follows. The first three sections (§5.1 to §5.3) set the scene. §5.1 starts out by outlining the core data and analysis to be considered in this chapter. §5.2 then discusses the theoretical stakes of the analysis, both for those interested in Choctaw and Muskogean syntax more narrowly, and those interested in the theory of datives, applicatives and case more generally. §5.3 introduces a necessary preliminary: that dative subjects in Choctaw really are subjects, despite the fact that they scramble some of the subjecthood diagnostics established in §2.3.2.

Following these scene-setting sections, §5.4-5.5 provide the main empirical evidence for the two main claims made in this chapter. §5.4 shows that dative arguments can be base-generated in two different

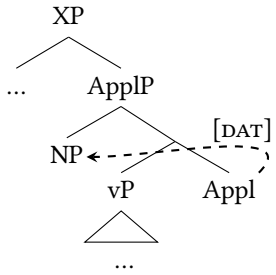
locations—Spec-ApplP and Spec-vP. §5.5 then shows that dative and applied arguments divide into two groups, in terms of their ability to A-move to the subject position when added to a non-active verb, and that this difference correlates with the thematic interpretation of the argument. §5.6 builds up the theoretical underpinnings of the analysis, expanding on the *licensing* account offered in this chapter, and showing that it has an edge over various alternatives. §5.7 concludes.

5.1 Outline of analysis

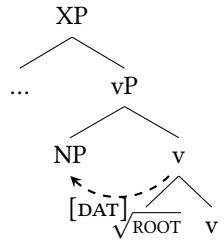
I propose that DAT clitics, as in (1-2), index arguments with a dative ([DAT]) case value. Dative case can be assigned to arguments in at least these two positions: the specifier of an applicative phrase ApplP, as in (7a), and the specifier of v, as in (7b) (trees repeated from (4)).[4]

(7) **Two configurations for dative-assignment**

a.



b.



Recall from §2.5.2 that DAT and ABS clitics attach at a functional head in the vicinity of Voice (see also Tyler 2019a)—I omit this head, and the movement of the clitics, from the trees in this chapter, since it is not directly relevant to any of the points being made.

The Appl that introduces dative arguments is generally phonologically null, as in (1-2). An example with a glossed Ø applicative morpheme is shown in (8).

(8) **Phonologically null applicative prefix**

Iss<u>a</u> tiwách<u>a</u>nah<u>o</u>?
is-s<u>a</u>-**Ø**-tiwaach-<u>a</u>na-h-<u>o</u>
2SG.ERG-1SG.DAT-**APPL**-stir-MOD-TNS-Q
'Can you stir it for me?' (A_10-09-18_43)

However, there are also some instances where a DAT clitic cooccurs with an overt applicative prefix. The examples in (9) exemplify this: *aa-*, the overt LOCative applicative, and *<u>i</u>-*, the overt BENefactive applicative, both co-occur with DAT clitics. Broadwell (2006:153) refers to these as 'compound applicatives' (see also Nicklas 1996).

4. There must also be a dative-assigner within the extended projection of the noun—see §2.6.1.

(9) **Compound applicatives**

a. Pim-**aa**-habiina-h.[5]
1PC.DAT-**LOC**-receive-TNS
'He received it from us.' (Ulrich 1986:266)

b. *Sashki imi balílilitok.*
sa-shki im-**i**-baliili-li-tok
1SG.ABS-mother DAT-**BEN**-run-1SG.ERG-PST
'I ran for my mother.' (K_06-15-16_38)

Some Appls do not assign dative case to their specifier, meaning the applied arguments gets indexed with an ABS rather than DAT clitic. The Appls that do not assign dative case are all overt (cf. (3)). A table of some common clitics and [clitic+applicative] combinations, which all appear in the prefixal zone of the verb complex (cf. §2.5.2) is provided in (10).[6]

(10) **Some clitic and applicative paradigms**

	ABS	**DAT**	**COM** **=ABS+Appl**	**LOC** **=ABS+Appl**	**SUP** **=ABS+Appl**	**BEN** **=DAT+Appl**
3	-	im	ibaa	aa	on	im-im
1SG	sa	(s)am	sa-baa	si-aa	si-on	(s)am-im
1PC	pi	pim	pi-baa	pi-aa	pi-on	pim-im
1PL	hapi	hapim	hapi-baa	hapi-aa	hapi-on	hapim-im
2SG	chi	chim	chi-baa	chi-aa	chi-on	chim-im
2PL	hachi	hachim	hachi-baa	hachi-aa	hachi-on	hachim-im

Now let's consider the syntax of applied arguments, at the clausal level (I set aside selected dative arguments in Spec-vP for now). In the event that the applied argument is c-commanded by a higher clausemate argument, as in (11), then it will invariably surface as an object. On the tree, I also represent Voice assigning [ERG] to its specifier (cf. chapter 4), and how *some* (but not all) Appls assign [DAT] to their specifier.

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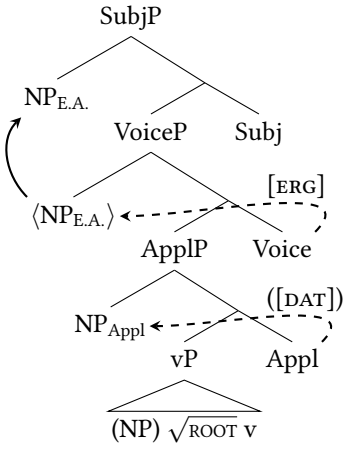
5. Ulrich (1986) and Broadwell (2006) term this combination of a DAT clitic plus a locative applicative the *ablative*. Ulrich states that it is absent from Mississippi Choctaw, and found only in the Oklahoma variety, but the Mississippi speakers I consulted found it perfectly natural.

6. The instrumental applicative morpheme *ish(i)t-* exhibits somewhat different behavior, and can appear in both the proclitic and the prefixal zone of the verb complex—see Broadwell (2006:159) and §2.5.3 for discussion of some its unique properties.

Note also that the DAT clitics themselves could clearly be decomposed into an ABS clitic and a morpheme *(i)m* Broadwell (2006) and Woolford (2010) assume this kind of analysis. I do not take a position on how DAT clitics should be decomposed, if at all—however, importantly, in this chapter I argue that the *(i)m* component of the DAT clitic is *not* an Appl head. This is partly motivated by the existence of compound applicatives as in (9), where we see both the DAT clitic and an overt applicative morpheme next to each other. It is also motivated by the finding that DAT-doubled arguments are not restricted to appearing in Spec-ApplP (cf. §5.4).

(11) **Case-assignment in a clause with an external argument and a dative applied argument**



Instances of this configuration, with an external-argument subject and an applied object, underlie the sentences in (1a-c) and (3).

However, in the event that the applied argument is *not* c-commanded by a higher argument within VoiceP, then its syntactic behavior will vary depending on whether it is *licensed* or not. The two possible behaviors for an applied argument added to a non-active verb are illustrated in (6), repeated in bracket notation in (12). An unlicensed applied argument will raise to subject position, as in the 'advancing' derivation in (12a). By contrast a licensed applied argument will remain in place, and instead the theme argument will raise past it and become the subject instead, as in the 'skipping' derivation in (12b). In both configurations, the EPP feature on Subj drives the movement of the argument, and ends up satisfied.

(12) a. **Advancing derivation**

[$_{\text{SubjP}}$ NP Subj [$_{\text{VoiceP}}$ Voice [$_{\text{ApplP}}$ ⟨NP$_{\text{[Unlicensed]}}$⟩ Appl [$_{\text{VP}}$ V NP]]]]

b. **Skipping derivation**

[$_{\text{SubjP}}$ NP Subj [$_{\text{VoiceP}}$ Voice [$_{\text{ApplP}}$ NP$_{\text{[Licensed]}}$ Appl [$_{\text{VP}}$ V ⟨NP⟩]]]]

I propose that the presence vs. absence of licensing is a property of different Appls. So what differentiates Appls that license their specifier from Appls that do not? Dative applied arguments are particularly instructive in this regard: I show that that licensed dative applied arguments (i.e. those datives which cannot A-move to the subject position) have a disjoint set of thematic interpretations from unlicensed dative applied arguments (i.e. those which can A-move).

The picture that we end up with is one where all variation is routed through different Appl heads in the syntax. There are two phonologically-null, dative-assigning Appls, each of which has a different licensing behavior, and assigns its specifier a different set of thematic roles (for convenience, I call these 'Appl1' and 'Appl2'). By positing these two different Appls, we can account for the strict correlation between A-

movability and thematic role. In addition, there are several other phonologically-overt Appls, which *do* license their specifier and each assign it a particular thematic role. The full taxonomy of unselected Appl heads in Choctaw, along with their morphological, theta-assigning and licensing properties, is given in (13).[7]

(13) **Unselected Appl heads in Choctaw**

Appl	**Morphology**	**θ-roles**	**Licenses Spec-ApplP?**
Appl1	Ø + [DAT]	Predicative possessor External possessor Maleficiary Engineer	No
Appl2	Ø + [DAT]	Beneficiary Source/Location	Yes
Appl_{BEN}	*im-* + [DAT]	Benefactive	Yes
$\text{Appl}_{\text{INSTR}}$	*ish(i)t-*	Instrument	Yes
Appl_{COM}	*ibaa-*	Comitative	Yes
Appl_{SUP}	*o̲-*	Superessive	Yes (Chickasaw: Yes/No)
Appl_{LOC}	*aa-* (+ [DAT])	Locative	Yes (Chickasaw: Yes/No)

Note that in Choctaw, variation in licensing only exists among dative-assigning Appl heads—all non-dative-assigning unselected Appl heads (those whose applied arguments are indexed by ABS clitics) license their specifier. However, in closely-related Chickasaw, we see that some non-dative-assigning Appl heads (superessive *o̲-*, locative *aa-*) can *optionally* fail to license their specifier (cf. §5.6.4).

Finally, arguments that are assigned (lexical) dative in Spec-vP are always A-movable (and therefore unlicensed), and may be assigned theta-roles outside the restricted set of roles identified for arguments in Spec-ApplP—this is the analysis I provide in an appendix to the chapter (§5.9) for certain dative-subject intransitives, like (2a).

5.2 The theoretical stakes

The main goals of this chapter are to argue (a) that DAT clitics spell out a dative case value, which can be assigned to NPs from two sources—Appl and v—and (b) that dative and applied arguments vary in terms of whether they are *unlicensed*, and thus able to move to the subject position, or *licensed*, and thus unable to move, with this split corresponding to two different sets of possible thematic roles. The analysis presented here should be of interest to Muskogeanists, syntacticians, and those who identify as both. This section is therefore composed of three subsections, which address in turn implications for the analysis of Muskogean languages (§5.2.1), implications for the theory of dative case and applicatives (§5.2.2), and implications for

7. There must also be some *selected* Appl heads in Choctaw: the Appl head that introduces the ABS experiencer argument of psych verbs is one (see §4.4.2, §5.4), since the verb root cannot appear without it. The same goes for the Appl head that introduces the dative experiencer argument of verbs like *im-ahwa* 'think', on which see §5.4 also. I omit these *selected* Appl heads from the table in (13).

the theory of case more generally (§5.2.3).

In terms of how we think about datives and applicatives in Choctaw and Muskogean, the two main points of the chapter are firstly that DAT clitics reflect an argument's *case* value, and secondly that approaches to dative-subject transitives which derive them from more 'basic' sentences without dative subjects are untenable. In terms of implications for the syntax of datives and applicatives more broadly, I argue that the Choctaw pattern shows that existing theories of what makes arguments accessible vs. inaccesible for A-movement are, at best, incomplete. I propose a revision or addendum to such theories based on the Choctaw pattern. Finally, in terms of implications for the theory of case, this chapter contributes to one of the overarching themes of this dissertation: that arguments case ([K]) features may simultaneously carry multiple case values.

5.2.1 Implications for the analysis of Muskogean datives and applicatives

The analysis in this chapter should have two main takeaways for the Muskogeanist reader. Firstly, DAT morphology is best understood as the reflection of *case*. Secondly, rules proposed in previous work such as 'III-subjectivalization'/'dative raising' and 'possessor raising', by which dative-subject transitives are derived from more 'basic' sentences where the dative occupies a different role (object or possessor), are flawed ways to understand dative-subject transitives. Instead, the fact that dative arguments have different thematic properties depending on whether they end up a subject or object is evidence that neither is derived from the other.

Let's first consider the benefits of analyzing DAT clitics as distinguished from other clitics by a [DAT] case value. The distribution of DAT clitics has previously been recognized as a challenge to purely 'semantic' accounts of Muskogean alignment, a point originally raised by Munro and Gordon (1982) (see §4.3.1 for a similar problem with a semantics-only account of the distribution of ERG vs. ABS clitics). While certain thematic roles, such as beneficiaries, will invariably be marked with a DAT clitic (perhaps with an optional benefactive applicative morpheme—see (9b)), there is a high degree of verb-specific arbitrariness in the system. For example, Choctaw has a number of intransitive verbs that predicate psychological states of their subjects, a sample of which is shown in (14), and it is hard to see any kind of natural class associated either with DAT-subject or ABS-subject verbs.

(14) **Psych verbs take DAT and ABS subjects**

DAT subject		**ABS subject**	
a-kapassah	'I feel cold'	sa-haksi	'I am confused/drunk'
a-chiloosah	'I am lonely'	sa-nokhakloh	'I am sorrowful'
am-achokmah	'I am contented'	sa-hoofahyah	'I am embarrassed'
a-takoobih	'I am lazy'	sa-tasiboh	'I am crazy'
a-haboofah	'I am exhausted'	si-okchah	'I am awake'

In the same vein, Broadwell (2006:144) notes that Choctaw has two apparently synonymous verbs meaning 'kiss', *ahpali* and *tokoowa*, where the former takes an ABS object and the latter takes a DAT object. He also provides some verbs such as *hollo* 'love', which freely take either an ABS or DAT object, with no reported difference in interpretation.

A case-based analysis of dative clitics provides a natural way to account for this kind of arbitrariness, since we have a raft of evidence showing that, within a single language, dative case maybe assigned to arguments of the verb under both semantically-grounded *and* lexically-idiosyncratic conditions. For instance, within Icelandic a distinction is often made between those instances of the dative which are 'truly idiosyncratic', as in (15), and those which are more regularly associated with particular thematic roles such as psych experiencers, as in (16a), and goals, as in (16b) (see Woolford 2006 for theoretical discussion of this point; see Jónsson 2003, 2009, 2013 for discussion centered around Icelandic).

(15) **Icelandic: idiosyncratic dative case**

a. Rómaveldi hnignaði.
Roman.empire.**DAT** declined
'The Roman Empire declined.' (Jónsson 2003:147)

b. Hann hegndi þeim sem brutu reglurnar.
he punished those.**DAT** who broke rules.the
'He punished those who broke the rules.' (Jónsson 2009:209)

(16) **Icelandic: inherent or predictable dative case**

a. Sumum leiðist að læra heima.
some.**DAT** be.bored to study at.home
'Some find it boring to do homework.' (Jónsson 2003:130)

b. Bjartur sendi mér bókina.
Bjartur sent me.**DAT** book.the
'Bjartur sent me the book.' (Wood 2015:14)

And similar to the Choctaw verbs *ahpali* and *tokoowa*, both meaning 'kiss', there are also synonymous verbs in Icelandic which arbitrarily put their object in different cases. For instance *keyra* and *aka* both mean 'drive', but *keyra* takes an accusative object while *aka* takes a dative one (Zaenen et al. 1985).

Let's now turn to the second main takeaway from my analysis—a rethinking of dative-subject transitives

in Choctaw (and across Muskogean). Previous analyses have conceived of them as derived by rule from more 'basic' sentences, in which the dative argument has some other grammatical function (either an object of the verb, or a possessor inside one of the arguments of the verb). These rules are allegedly in the same family as (anti)passivization rules cross-linguistically—they may affect the grammatical roles occupied by particular arguments, thereby changing the information structure of the sentence, but they should not affect the *thematic* structure of the sentence. In contrast, the analysis presented here does not view dative objects or possessors as any more 'basic' than dative subjects, and does not have the latter derived by rule from the former. What's more, I show that there are real differences in the thematic properties of dative arguments, and the verbs that host them, that depend on whether the dative argument is an object or a subject. These thematic differences are problematic for approaches that derive dative-subject transitives from more 'basic' sentences with dative non-subjects.

To illustrate some issues with the rule-based approaches to dative-subject transitives, consider the examples in (17). The dative subject may be interpreted as an affected experiencer (17a) or a possessor (17b-c) (and perhaps, in the case of (17c), both an experiencer and a possessor), among other interpretations (cf. §5.5). The dative subject is in a dashed box.

(17) **Dative-subject transitives**

a. *Chim ishtishko am ittolah.*
   pro.1SG chim-ishtíshko am-ittola-h
   2SG.DAT-cup 1SG.DAT-fall-TNS
   'I dropped your cup.' (A_01-29-18b_96)

b. *Sa tíkchi yat car i hikíyah.*
   sa-tiikchi-yat car i-hikíya-h
   1SG.ABS-wife-NOM car DAT-stand:NG-TNS
   'My wife has a car.' (A_06-09-17_33)

c. *Jimmy at katos im illitok.*
   Jimmy-at kátos im-illi-tok
   Jimmy-NOM cat DAT-die-PST
   'Jimmy's cat died.' (C_06-14-17_23)

In existing work on verbs with dative subjects, sentences like (17a-b) are derived by a rule of *III-subjectivalization* from an underlying representation in which the dative argument is an *object* (Munro and Gordon 1982, Munro 1999, 2016).[8] This rule is described as being akin to English passivization, in that it "operate[s] to make a non-subject noun more salient" (Munro and Gordon 1982:102). Similarly, sentences like (17c) are generally analyzed as being derived from sentences like (18), in which the possessor forms a syntactic con-

8. This rule goes by various names. Broadwell (2006) calls it 'dative raising', while Pam Munro, in work on Chickasaw, opts for the 'oblique subject rule' in Munro (1999) and the 'applicative subject' rule in Munro (2016). 'Dative raising' would be less appropriate for Chickasaw, since that language is unlike Choctaw in allowing several kinds of non-dative applied arguments to also occupy the subject position—see §5.6.3.

stituent with its possessee, by a rule of *possessor raising* (Nicklas 1974, Davies 1981a,b, 1984, 1986, Munro and Gordon 1982, Munro 1984b, 1999, 2016, Ulrich 1986, Broadwell 1990, 2006).

(18) [Jimmy i-kátos-at] illi-tok.
Jimmy DAT-cat-NOM die-PST
'Jimmy's cat died.'

However, as stated above, such rule-based approaches to dative-subject transitives are problematic, and I believe the approach proposed in this chapter has some advantages. The principal issue with the derivational/rule-based analyses is that dative-subject transitives, both those that involve possession like (17b-c) and those that do not like (17a), have significant meaning differences from their dative-object or dative-possessor counterparts. These meaning differences are sometimes predictable and sometimes idiosyncratic, but in all cases they affect the thematic structure of the verb and its arguments, and thus go beyond the kind of meaning differences introduced by a rule like English passivization.

Consider for instance the pair of sentences in (19), repeated from (5). They both feature the intransitive verb *kochoofa* 'bend', with an applied dative argument added. As indicated by the dashed boxes, the dative is a subject in (19a) and an object in (19b) and in each sentence the dative argument has a different, though entirely predictable, thematic role (affected experiencer vs. beneficiary, translated into English as a PP headed by 'on' vs. 'for').

(19) **Dative subject vs object (predictable difference in interpretation)**

a. *Katie at jack i kochófatok.*
Katie-at jack i-kochoofa-tok
Katie-NOM jack DAT-bend.NACT-PST
'The jack bent on Katie.' (A_10-18-18_49)

b. *Katie ano talit i kochófatok.*
Katie-ano tali-t i-kochoofa-tok
Katie-OBL.CONTR metal-NOM DAT-bend.NACT-PST
'The metal bent for Katie.' (A_10-18-18_51)

Under a rule-based analysis, (19a) would be derived from a sentence with an underlying structure like (19b) by 'III-subjectivalization'. But as shown, the dative argument in the two sentences takes on a different thematic role (see §5.5 for further discussion).[9]

9. One advantage the 'classic' rule-based analyses do have is that they provide an account for why the objects of dative-subject transitives may optionally carry nominative case, as in (i). The explanation is that, before the rule gets applied, nominative objects start out as subjects. See chapter 6 for detailed discussion of case-marking of objects in Choctaw.

(i) *Sa tíkchi yat ik hopáko kásh car hat i hikíyatok.*
sa-tiikchi-**yat** ik-hopáak-o-k-aash carh-**at** i-hikíya-tok
1SG.ABS-wife-**NOM** IRR-long.time:LG-NEG-COMP-PREV car-**NOM** DAT-stand:NG-PST
'My wife had a car not long ago.' (A_06-09-17_37)

Consider now the pair of (17c) and (18), supposedly related by 'possessor raising'. The meaning distinction between these two is less obvious from their English translations, but NP-external possessors like that in (17c) are subject to certain restrictions that NP-internal possessors, like in (18), are not subject to. This is discussed in outline in §5.5.3, and in more detail in Tyler (to appear).[10]

In addition to these *predictable* interpretative effects, the switch from dative object to dative subject may also have *unpredictable* interpretative effects. Consider, for instance, the verb *hikíya* 'stand'. When it takes a dative object, as in (20a), it means 'wait for', but when it takes a dative subject, as in (20b) (repeated from (17b)), it means 'have'.

(20) **Dative object vs subject (unpredictable difference in interpretation)**

a. *John okla il i hikiyatok.*
John okla=il-i-hikíya-tok
John PL=1PL.ERG-DAT-stand:NG-PST
'We waited for John.' (E_08-11-17_8)

b. *Sa tíkchi yat car i hikiyah.*
sa-tiikchi-yat car i-hikíya-h
1SG.ABS-wife-NOM car DAT-stand:NG-TNS
'My wife has a car.' (A_06-09-17_33)

Munro and Gordon (1982) illustrate the same point in Chickasaw—the meaning of the sentence in (21b) with a dative subject, supposedly the output of a III-subjectivalization rule, is not predictable from the meaning of the sentence in (21a) with a dative object, supposedly the input to the rule.

(21) **Chickasaw: dative object vs. subject (unpredictable difference in interpretation)**

a. Claire-at Doris im-ala-tok.
Claire-NOM Doris DAT-come-PST
'Claire came to Doris.'

b. Doris-at Claire-at im-ala-tok.
Doris-NOM Claire-NOM DAT-come-PST
'Doris gave birth to Claire.' (Munro and Gordon 1982:99)

Because of this unpredictability, Munro and Gordon (1982:98) state that III-subjectivalization "may not always be thought of as [a] transformation", and Broadwell (2006:310) states that "there are sometimes no alternatives to the [III-subjectivalized] version of the sentence" (referring to alternatives which, specifically,

10. Choctaw in fact *does* have a rule of (true) 'possessor raising', which does not affect the thematic interpretation of the verb or its arguments. An example is given in (i).

(i) *Kíyo, chishnakósh chi noshkobo at chitoh.*
kiiyo, chishn-ak-oosh chi-noshkobo-at chito-h
No you-FOC-NOM.SP 2SG.ABS-head-NOM big-TNS
'No, you're the one who has a big head.' (A_08-07-17_85)

As this example shows, possessor raising has a different morphosyntactic signature from the kind of external possession in (17c). See §5.8 and Tyler (to appear) for discussion of possessor raising in Choctaw.

have the same thematic interpretation).

In sum, the fact that these 'rules' of III-subjectivalization and possessor raising affect the thematic interpretation of the verb and its arguments should be taken as evidence that dative subjects are *not* derived from dative objects by rules akin to passivization.[11] The account in this chapter, by contrast, holds that the dative arguments in pairs like (19), (20) and (21) are introduced by two different kinds of Appl head, which come with a different set of syntactic and interpretative properties. Neither sentence is derived from the other. The model here also provides a mechanism for encoding *un*predictable variation in the meaning of the verb, as in (20) and (21), a phenomenon that is problematic for rule-based accounts. Under the present analysis, the interpretation of the verb root may be conditioned by the presence of extra arguments or functional structure, including the presence of certain Appl heads (cf. §1.3.5). This is akin to how the presence of an external-argument-introducing Voice head may condition particular meanings of the verb root, as discussed in chapter 3.

5.2.2 Implications for the analysis of dative case and applicatives

In this chapter I argue that Choctaw applied arguments split into two categories with respect to their ability to undergo A-movement to the subject position. Applied arguments that are associated with one set of thematic roles can undergo A-movement, while applied arguments associated with a different set of roles *cannot* undergo A-movement. Since the two kinds of applied argument show different syntactic behavior, the difference between them needs to be encoded in the syntax (and cannot be encoded solely in the semantic component). In this section, I first discuss the cross-linguistic status of A-movable vs. A-immovable applied arguments. I then turn to the analysis I propose here, which involves the presence vs. absence of *licensing*.

There are some cross-linguistic analogues for the Choctaw pattern identified here, in which certain applied arguments can become the subject when added to intransitive, unaccusative or non-active verbs, while other applied arguments cannot. The best example I have found comes from Central Alaskan Yupik. There, adversative applicatives added to intransitive verbs will become the subject, as in (22b), while general applicatives added to the same verb will become objects, as in (22c). In addition to having different syntactic properties, the two kinds of applicative are distinguishable by having a different thematic role, and different morphology.[12]

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11. There is a further potential issue with the rule-based analysis, relating to the lack of a clear distinction between those dative-subject transitives derived by III-subjectivalization and the dative-subject transitives that are simply lexically-specified to take DAT subjects. Broadwell (2006:145) cites five verbs in this class, including *im-ihaksi* 'forget', which lack a dative-less intransitive counterpart.

12. I have edited the glossing in Miyaoka's examples for ease of exposition.

(22) **Central Alaskan Yupik: applicatives of intransitives**

a. Intransitive clause: NP_{Theme} becomes subject

Kicaq kit'-uq.
anchor.ABS sink-IND.3SG
'The anchor sank'

b. Adversative applicative: NP_{Appl} becomes subject

Kic-**i**-aqa maklaar-t-a-qa.
sink-**APPL.ADV**-IND 1SGS 3SGO young.seal-catch-RLVZ-ABS.
'The young spotted seal I caught sank on me.'

c. General applicative: NP_{Theme} becomes subject

Kica-m kis'-**ut**-aanga.
anchor-ERG sink-**APPL**-IND.3SGS 1SGO
'The anchor sank with me.' (Miyaoka 2015:1190-1191)

However, it seems to be very common for applicatives of unaccusatives/non-actives within a language all follow one pattern—typically, applied arguments will always remain the object while the theme argument will become the subject. This appears to be the case in, for example, Shipibo, Nez Perce and Inuktitut, as shown in (23-25).

(23) **Shipibo: theme becomes becomes subject**

a. Kokoti-ra joshin-ke.
fruit-PRT ripen-PRF
'The fruit ripened.'

b. Bimi-**n**-ra Rosa joshin-xon-ke.
fruit-**ERG**-PRT Rosa ripen-APPL-PRF
'The fruit ripened for Rosa.' (Baker 2014a)

(24) **Nez Perce: theme becomes becomes subject**

a. Ha-'aayat hi-pa-pay-no'-kom.
PL-woman.NOM 3SUBJ-S.PL-come-FUT-CIS
'The women will come.'

b. Ha-'aayat-**om** nuun-e hi-pa-naas-pay-noo-yo'-kom.
PL-women-**ERG** 1PL-ACC 3SUBJ-**S.PL**-O.PL-come-APPL-FUT-CIS
'The women will come to us.' (Deal 2019:390)

(25) **Inuktitut: theme becomes becomes subject**

a. Jiisusi tuqu-lauq-tuq
Jesus.ABS die-PST-3SGS
'Jesus died.'

b. Jiisusi-**up** tuqu-jjutigi-lauq-**taatigut**
Jesus-**ERG** die-APPL-PST-**3SGS/1PLO**
'Jesus died for us.' (Yuan 2018:106)

Therefore, in order to look for good analogues to the Choctaw pattern, we need to look beyond applicatives of unaccusatives/non-actives. Fortunately, natural language provides us with another configuration that is very similar to an applicative-of-unaccusative configuration: passives with applicative arguments. Like applicatives of unaccusatives, passives with applicative arguments feature multiple internal arguments, no external argument, and a subject position that needs filling.

When a verb with an applied argument is passivized, in very many languages that applied argument may become the subject. (26) shows that an applied argument can become the subject of a passive in English.

(26) **English: applied argument in double-object construction may become subject**

a. The student baked the teacher a cake.

b. The teacher was baked a cake (by the student).

But not all applied arguments are alike: across languages, the ability of an applied argument to become the subject of a clause under passivization is often tied to the argument's thematic role. Consider Japanese (the facts are similar in Ancient Greek, cf. Conti 1998, Alexiadou et al. 2014a, Anagnostopoulou and Sevdali 2015). Various monotransitive and ditransitive verbs in Japanese mark their object (or one of their objects) with dative case, as in (27a) and (28a). When the verb is passivized, these dative arguments may undergo A-movement to the subject position of their clause (their dative case is also replaced by nominative). This is shown in (27b) and (28b). As throughout this chapter, the applied or dative argument is in a dashed box.

(27) **Japanese: passivization of a monotransitive verb with dative object**

a. Naomi-ga Ken-ni kisu(-o) sita.
Naimo-NOM Ken-DAT kiss-ACC do.PST
'Naomi kissed Ken.'

b. Ken-ga Naomi-ni kisu(-o) sareta.
Ken-NOM Naomi-DAT kiss-ACC do.PASS.PST
'Ken was kissed by Naomi.' (Alexiadou et al. 2014a:6)

(28) **Japanese: passivization of a ditransitive verb with dative indirect object**

a. Naomi-ga Ken-ni labuletaa-o watasita.
Naomi-NOM Ken-DAT love.letter-ACC hand.PST
'Naomi handed Ken a love letter.'

b. Ken-ga Naomi-ni labuletaa-o watasareta.
Ken-NOM Naomi-DAT love.letter-ACC hand.PASS.PST
'Ken was handed a love letter by Naomi.' (Ishizuka 2012:81f. in Alexiadou et al. 2014a:7)

However, dative arguments which receive a beneficiary role, as in (29), or a locative role, as in (30), *cannot* become the subject under passivization.

(29) **Japanese: dative beneficiary may not become the subject of a passive**

a. Hahaoya-ga Naomi-ni huku-o katta.
mother-NOM Naomi-DAT clothes-ACC buy.PST
'Mother bought Naomi the dress.'

b. ??Naomi-ga hahaoya-ni huku-o kawareta.
Naomi-NOM mother-DAT clothes-ACC buy.PASS.PST
('Naomi was bought the dress by her mother.') (Ishizuka 2012:93 in Alexiadou et al. 2014a:7)

(30) **Japanese: dative location may not become the subject of a passive**

a. Kyoko-wa ima Osaka-ni iru.
Kyoko-TOP now Osaka-DAT exist.PRES
'Kyoko is in Osaka now.'

b. *Osaka-ga Kyoko-ni irareta.
Osaka-NOM Kyoko-DAT exist.PASS.PST
('Osaka was existed in by Kyoko.') (Ishizuka 2012:87)

We also see the same bifurcation of applied arguments, divided into A-movable and A-immovable categories according to their thematic interpretation, in languages without adnominal case morphology. Consider applied arguments in Bantu languages. In typical Bantu languages, the presence of an applied argument is marked with an applicative affix on the verb. However, within and across Bantu languages, the ability of the applied argument to become the subject of a passivized verb varies with its thematic role. The pairs of sentences in (31-32) show that in Swahili, applied arguments that function as beneficiaries and goals can become the subject of a passive.[13] Note that I show only sentences where applied arguments are added to intransitive verbs, to avoid the complicating factor of the difference between symmetric and asymmetric ditransitives, which has been studied extensively within the Bantu family (Baker 1988, Alsina and Mchombo 1990, Woolford 1993, Van der Wal 2016, a.m.o.).

(31) **Swahili: goal may become subject of a passive**

a. Mw-ana a-ki-m-butuk-i mayi-mu-ndu.
1-child 1-PST-1-run-APPL 1.mother-1-person
'She ran to her mother.' (Ndendeule, Ngonyani 1998:72)

b. Mama a-li-kimbil-i-w-a na mw-ana-e.
1.mother 1-PST-run-APPL-PASS-FV by 1-child-hers
'The mother was run to by her child' (Swahili, Ngonyani 1998:77)

(32) **Swahili: beneficiary may become subject of a passive**

a. A-na-mw-imb-i-a mw-anamke huyu.
1-PRES.PROG-1-sing-APPL-FV 1-woman 1.this
'He is singing for this woman.' (Swahili, Liu 2014:(4b))

13. Since most of these examples are taken from Ngonyani (1998), some of the un-passivized example sentences are from the related language Ndendeule. Ngonyani states that Ndendeule applicatives have the same range of thematic interpretations as Swahili's.

b. Wa-zee wa-li-imb-i-w-a na vi-jana.
2-old 2-PST-sing-APPL-PASS-FV by 8-young.people
'The elders were sung to by the young people.' (Swahili, Ngonyani 1998:77)

In contrast, Ngonyani (1998) shows that applied arguments interpreted as reasons or locations (and some other roles) may *not* become the subject of a passive:

(33) **Swahili: reason applicative may not become subject of a passive**

a. A-ki-hyɔm-ɛ ma-ligɔ.
1-PST-be.angry-APPL 6-insults
'He got angry because of the insults.' (Ndendeule, Ngonyani 1998:72)

b. * Ma-tusi ya-li-kasirik-i-w-a na mw-enyekiti.
6-insults 6-PST-be.angry-APPL-PASS-FV by 1-chairperson
'The insults were got angry at by the chairperson.' (Swahili, Ngonyani 1998:77)

(34) **Swahili: locative may not become subject of a passive of intransitive**[14]

a. Yesu a-ki-hwel-e ku-Gɔlgɔta.
Jesus 1-PST-die-APPL 15-Golgota
'Jesus died at Golgota.' (Ndendeule, Ngonyani 1998:73)

b. * Golgota pa-li-f-i-w-a na Yesu.
Golgota 18-PST-die-APPL-PASS-FV by Jesus
'Golgota was died at by Jesus.' (Swahili, Ngonyani 1998:77)

Thus we see that applied arguments in Central Alaskan Yupik, Japanese and Swahili have split behavior in terms of their A-movability, with the split correlating with their thematic role (and, sometimes, the choice of overt applicative morpheme). This fits with what we find for Choctaw, whereby some dative and applied arguments are accessible for A-movement to the subject position, and other dative and applied arguments are not. In Choctaw, as in Central Alaskan Yupik, Japanese and Swahili, we find that the split is conditioned by thematic role.

Looking at dative and applied arguments in this perspective also allows us to see that some of the explanations that have previously been offered for 'split passivizability' are quite parochial, and cannot be generalized. One previous account of the difference in the A-moveability of dative arguments is provided by Alexiadou et al. (2014a) and Anagnostopoulou and Sevdali (2015). They propose that dative arguments which can become the subject of a passive have 'structural' (i.e. dependent) dative case, while those which resist becoming the subject have inherent dative case (associated strictly with a particular set of theta-roles).[15] The problem in applying this distinction to Choctaw, as well as the languages discussed above,

14. In Swahili, locative applicatives added to transitives, forming ditransitives verbs, exhibit different behavior under passivization from locative applicatives added to intransitives. They allow promotion of either the direct object or the applied locative argument to subject. I refer the reader to Ngonyani (1996, 1998).

15. Alexiadou et al. (2014a) and Anagnostopoulou and Sevdali (2015) use the term 'structural' case to refer to the system I refer to here

is that both A-movable (passivizable) *and* A-immovable (unpassivizable) applied arguments are associated with a particular set of thematic roles (for Choctaw, see §5.5).[16] It is therefore not clear that the argument-marking associated with A-movable applied arguments is any less 'inherent' than the marking associated with A-immovable applied arguments.

In this chapter, I argue instead for account in which A-(im)movability is a consequence of the presence vs. absence of a purely-syntactic licensing relation between Appl and Spec-ApplP: applied arguments licensed by Appl cannot undergo subsequent A-movement; applied arguments not licensed by Appl *can* undergo subsequent A-movement. Whether Appl licenses Spec-ApplP is independent of whether Appl assigns it dative case, circumventing the problems raised by the 'structural vs. inherent dative' account (although, as Bob Frank (p.c.) notes, this comes at the cost of stipulating a relation that is not derived from any other relation). The present account also allows us to localize the variability in the syntactic behavior of applied arguments to the functional head responsible for their interpretation—Appl—capturing the observation that interpretation patterns with A-movability. I discuss this analysis in more detail, and why it is a better fit for the Choctaw data than its competitors, in §5.6.

5.2.3 Implications for the general analysis of case

The analysis presented in this chapter holds that arguments doubled by DAT clitics have their case ([K]) feature valued as dative ([DAT]), just as chapter 4 proposed that arguments doubled by ERG clitics have their case feature valued as [ERG]. I argue in chapter 6 that NPs marked with nominative case are distinguished from NPs marked with oblique case by the presence of a [NOM] case value. Choctaw has nominative arguments indexed by ERG clitics, as well as nominative arguments indexed by DAT clitics, as shown in (35).

(35) **Nominative arguments indexed by ERG and DAT clitics**

a. *Chishnákósh ish balílitok̲o̲?*
chishn-ak-oosh ish-baliili-tok-o̲
you-FOC-NOM.SP 2SG.ERG-run-PST-Q
'Did YOU run?' (H_06-01-17_45)

b. *Chishnakósh ofit ch̲i̲ mokófatok̲o̲?*
chishn-ak-oosh ofi-t ch̲i̲-mokoofa-tok-o̲
you-FOC-NOM.SP dog-NOM 2SG.DAT-release.NACT-PST-Q
'Did YOU have the dog get away from you?' (A_10-18-18_43)

We thus end up in a theoretical position where individual NPs have to be permitted to carry multiple case values—[ERG] and [NOM] simultaneously, or [DAT] and [NOM] simultaneously. This finding and its theoretical

as 'dependent' case—see the discussion of dependent case in §6.12.

16. I argue that Choctaw *does* have purely lexical datives, which are not tied to any thematic role, but that these are hosted as an internal argument at v, not at Appl—see §5.9.

implications are discussed in detail in the conclusion to the dissertation (chapter 7).

In the next section, I discuss in some detail dative subjects, making the case that they are really are subjects on the basis of the subjecthood properties identified in chapter 2. This is a necessary preliminary for much of the argumentation that follows in this chapter.

5.3 Preliminary: dative subjects really are subjects

I this section, I show that arguments doubled by DAT clitics really can be subjects, of both intransitive and transitive verbs. Since this section introduces a necessary piece of background, but does not participate in the core argumentation of the chapter, it can be skipped over, or read out of order. To do this, I build on the analysis and description of subjects in Choctaw that was introduced in §2.3.1-§2.3.2. I first consider the dative subjects of intransitive verbs (§5.3.1), before moving onto the dative subjects of transitive verbs (§5.3.2)

5.3.1 Dative subjects of intransitives are subjects

Initial evidence that dative arguments may be subjects comes from the existence of intransitive verbs with dative subjects, such as *i-ponna* 'be skilled'. In §2.3.2 I showed that subjects bear nominative case and can be evaluated for switch-reference. In (36a) we see that the DAT-indexed subject of *iponna* 'be skilled' carries a nominative case-marker, and in (36b) we see that the pro-dropped subject of *i-ponna* is the argument that is evaluated by the switch-reference system.

(36) **Dative argument of *iponna* shows subject properties**

a. Ohooyo-p-at i-ponna-h.
woman-this-NOM DAT-skilled
'This woman is skilled.' (adapted from B_04-03-19_42)

b. *Iponna hátokósh nanaho ikkana chinna hokma chim ábacháhinah.*
[*pro.3* i-ponna-h-aatok-oosh] nánah-o ikkana chi-nna-h-o-km-a
DAT-skilled-TNS-because-SS something-OBL.SP learn 2SG.ABS-want-TNS-LINK-if-DS
chim-aabach-aahina-h
2SG.DAT-teach-MOD-TNS
'He$_i$ is talented so he$_i$ can teach you anything you want to know.' (C_01-31-18_176)

The syntax and interpretation of intransitives with dative subjects are discussed in more detail in §5.9.1.

5.3.2 Dative subjects of transitives are subjects

Initial evidence for the subjecthood of the dative argument (i.e. the argument indexed by a DAT clitic) in dative-subject transitives comes from nominal case-marking and word order. Specifically, when the dative

NP is overt it bears obligatory nominative case and precedes objects in neutral-word-order contexts—recall from chapter 2 that case is obligatory only on subjects, and that subjects precede objects in the absence of any topicalization. (37a) shows a clause with a nominative-marked dative subject (*miko-at*) and an overt, unmarked object (*kátos*). We know that it must be the subject controlling the DAT clitic, rather than the object, because we can show that the form of the clitic varies with the ϕ-features of the subject, as in (37b). Here and throughout this chapter, I enclose the dative argument in a dashed box.

(37) **Dative subject of transitive verb**

a. *Miko at katos im ittolatok.*
miko-at kátos im-ittola-tok
chief-NOM cat DAT-fall-PST
'The chief dropped her cat.' (N_06-07-17_23)

b. *Anakósh katos am ittolatok.*
an-ak-oosh kátos am-ittola-tok
me-FOC-NOM.SP cat 1SG.DAT-fall-PST
'I dropped the cat.' (E_06-16-17_73)

I make three further arguments for the subjecthood of the dative argument in these kinds of sentences, based on the subjecthood properties introduced in §2.3.2. They involve interaction with the control verb *banna* 'want', switch-reference, and licensing of the subject-oriented plural marker *okla*.

Let's consider first the interaction with *banna* 'want', which can take as its complement a reduced clause with a controlled-PRO subject (cf. §2.3.2). Only the highest argument of the reduced clause can serve as controlled PRO. This is illustrated by the examples below. In (38a) we see that the intransitive verb *ona* 'arrive' takes an ERG-class subject, and (38b) shows that the subject of this verb can be PRO—we know that it is PRO rather than an ordinary null pronoun because it is *not* indexed by an ERG clitic, despite having a 1st-person referent. The sentence in (39b) shows that ABS subjects can serve as controlled PRO too.

(38) **Subject of ERG-subject verb can serve as controlled PRO**

a. *Katihmish chi chokka ish ónáchih?*
kátihmi-sh chi-chokka ish-oon-aachi-h?
do.how-PTCP 2SG.DAT-house 2SG.ERG-arrive-FUT-TNS
'How are you getting home?' (L_08-14-17_35)

b. *Hashi kanallit ik óno kishana ona sannah.*
hashi kanálli-t ik-óon-o-k-isha-na *pro.1SG*$_i$ [PRO$_i$ ona] sa-nna-h
time-NOM IRR-arrive:LG-NEG-NEG-yet-and.DS arrive 1SG.ABS-want-TNS
'I want to get there early.' (lit. 'I want to get there when the time has not yet arrived.')
(M_06-06-17_22)

(39) **Subject of ABS-subject verb can serve as controlled PRO**

a. *Chishnakósh chi chonnah̲o̲?*
chishn-ak-oosh chi-chonna-h-o̲
you-FOC-NOM.SP 2SG.ABS-skinny-TNS-Q
'Are YOU skinny?' (H_06-01-17_51)

b. *Chonna chinna hokmat, i̲pa lawat apat issah.*
pro.2SG$_i$ [PRO$_i$ chonna] chi-nna-h-o-km-at, i̲pa lawa-t apa-t issa-h
skinny 2SG.ABS-want-TNS-LINK-if-SS food much.PTCP eat-PTCP quit-TNS
'If you want to be skinny, stop eating so much food.' (F_06-20-17a_21)

The sentence in (40) shows that only the highest argument of a verb can serve as controlled PRO—an object argument cannot.[17]

(40) **Object argument cannot serve as controlled PRO**

pro.1SG$_i$ [John-at *pro.3*/*PRO$_i$ isso-yo̲] sa-nna-h.
John-NOM hit-OBL 1SG.ABS-want-TNS
'I want John to hit him/*me.' (L_08-08-17_142, judgment)

When a dative-subject verb finds itself in the complement of *banna*, it is not clear that *either* argument can serve as controlled PRO. The examples in (41) show that the non-dative object argument (the argument *not* in the dashed box) cannot serve as PRO—I propose that this is because they are objects, and as shown in (40), objects are incapable of being PRO.

(41) **Object of dative-subject verb cannot serve as controlled PRO**

a. *pro.2SG*$_i$ [*pro.1SG* *pro.3*/*PRO$_i$ A̲-kaniiya] ik-chí-nn-o-h.
1SG.DAT-lose IRR-2SG.ABS-want:LG-NEG-TNS
'You don't want me to lose it/*you.' (A_08-10-17, judgment)

b. *Chim-ófi-yat$_i$ [*pro.1SG* PRO$_i$ am-ittola] banna-kiyo-h.[18]
2SG.DAT-dog-NOM 1SG.DAT-fall want-not-TNS
('Your dog$_i$ doesn't want me to drop it$_i$.') (A_08-10-17, judgment)

It *may* be the case that dative subject arguments can serve as PRO—(42) would be instances of this. However, if these really do contain PRO dative subjects, an extra explanation would be required as to why DAT PRO is clitic-doubled on the embedded verb, whereas ABS and ERG PRO fail to get clitic-doubled there (cf. (38a-c)).[19]

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17. Bob Frank (p.c.) suggests that the inability of the object of *isso* 'hit' in (40) to serve as controlled PRO might be because PRO can only replace nominative arguments, and the object of *isso* in (40) is oblique. Fortunately, we can show that having nominative case is *not* a sufficient condition for being able to serve as controlled PRO: nominative objects as in (41) cannot serve as controlled PRO, and therefore it is something about their subjecthood, rather than their case value, that allows arguments to be controlled PRO.

18. The sentence in (41b) can be interpreted as 'Your dog doesn't want to fall for me', with the 1SG dative clitic being interpreted as a beneficiary. This reading is available because beneficiary arguments are always objects (§5.5), thus meaning that the theme argument of *ittola* 'fall' functions as the subject of the embedded verb and thus may serve as controlled PRO.

19. Ulrich (1986) states that a dative-subject verb in the complement of a control verb will always appear with the 3rd-person/default DAT clitic *im-*, as in (i).

(42) **Dative subjects in control complements require clitic-doubling**

a. *Ofi a kaníya ik sannoh.*
pro.1SG$_i$ [PRO?$_i$ ofi **a**-kaniiya] ik-sá-nn-o-h
dog **1SG.DAT**-lose IRR-1SG.ABS-want:LG-NEG-TNS
'I don't want to lose the dog.' (A_08-10-17_41)

b. *A katos at am ittola ik sannoh.*
pro.1SG$_i$ [PRO?$_i$ a-kátos-at **am**-ittola] ik-sá-nn-o-h
1SG.DAT-cat-NOM **1SG.DAT**-fall IRR-1SG.ABS-want:LG-NEG-TNS
'I don't want to drop my cat.' (A_08-10-17_47)

c. *Pim achokma ik pinna!*
pro.1PC$_i$ [PRO?$_i$ **pim**-achokma] ik-pi-nna
1PC.DAT-good IRR-1PC.ABS-want
'Let's try to be happy!' (C_02-05-18_245)

Setting aside the issue of whether dative arguments may serve as controlled PRO, the fact that the ABS argument of a dative-subject transitive may *not* serve as controlled PRO is evidence that the ABS argument is not the subject. *If* Choctaw clauses need to have subjects, then the dative argument must be it. It is of course possible that 'dative-subject' verbs in Choctaw (or some varieties of Choctaw, cf. fn. 19) do not have subjects at all, but (a) this is contradicted by the other evidence I present in this section and in §2.3.1, and (b) some explanation would be required as to why the ABS argument cannot become the subject and (c) the assumption running through this chapter, that Subj has an EPP feature which must be satisfied in the syntax, would have to be abandoned.[20]

Let's turn now to the evidence from switch-reference (on which see §2.7.3 for an overview). The dative argument of dative-subject transitives is generally able to serve the argument evaluated by the switch-reference system, as shown in the examples in (43). In each example the dative argument of the embedded clause is coreferential with the subject argument of the main clause, and same-subject marking is significantly preferred to different-subject marking (note that the pattern is different when the dative subject is

(i) I-takoobi-h chi-banna-h.
DAT-lazy-TNS 2SG.ABS-want-TNS
'You want to be lazy.' (Ulrich 1986:242)

However, the speakers I consulted would require a 2SG.DAT clitic on both the matrix *and* embedded verb in these contexts, as in (42).

20. There is an intriguing cross-linguistic difference as to how dative-subject predicates behave in the complement of control verbs. Some varieties of Choctaw clearly allow the dative subject to serve as PRO (cf. footnote 19). These varieties differ from Basque, which allows only the *absolutive* argument of dative-subject transitives to serve as PRO, as shown in (i) (San Martin 1999, Rezac 2008b).

(i) **Basque: only the absolutive object of dative-subject transitives can serve as controlled PRO**

a. Kepa-k$_i$ ez daki [nor-i PRO$_i$ gustatu].
Kepa-ERG not know who-DAT liked
'Kepa does not know who should like him.'

b. *Kepa-k$_i$ ez daki [PRO$_i$ nor gustatu].
Kepa-ERG not know who.ABS liked
('Kepa does not know who to like.') (Basque, Rezac 2008b:76)

The Basque pattern parallels that of PRO in highly 'syntactically ergative' languages such as Dyirbal, where only the absolutive argument (and not the ergative argument) can serve as PRO in control clauses (Dixon 1994). I set aside discussion of this for now.

interpreted as an external possessor—see Broadwell 1990:231-247 and Broadwell 2006:308-309).

(43) **Dative subjects can usually be evaluated for switch-reference**

a. [Michelle-at$_i$ car im-aayiska-t taha-hm-{**at**/$^{??}$**a**}]
Michelle-NOM car DAT-fixed-PTCP finish.NACT-when-{SS/$^{??}$DS}

pro.3$_i$ i-chokka iiya-tok.
DAT-house go-PST

'When Michelle$_i$ finished getting her car fixed, she$_i$ went home.' (A_02-06-18a_82, judgments)

b. [*pro.3*$_i$ Naa balíili i-hikíya-h-aatok-{**oosh**/*o}]
car DAT-stand:NG-TNS-because-{SS/*DS}

pro.3$_i$ tamaaha náksika aa-toksal-ana-h.
town another LOC-work-MOD-TNS

'She$_i$ has a car so she$_i$ can work in another town.' (L_08-08-17, judgments)

By contrast, in the event that the theme argument (putatively the object) of a dative-subject transitive is coreferential with the subject of the matrix clause, both same-subject and different-subject marking are possible, as shown in (44).

(44) **Objects of dative-subject transitives are *optionally* evaluated for switch-reference**

a. [*pro.3* Kátos-at$_i$ im-ittóola-{**na**/$^{?}$**cha**}] *pro.3*$_i$ im-iyyi o-hikiiya-tok.
cat-NOM DAT-fall:LG-{and.DS/$^{?}$and.SS} DAT-foot SUP-stand-PST

'When he dropped the cat$_i$ it$_i$ landed on its feet.' (A_08-17-17c_7, judgments)

b. [Mary-at car$_i$ i-hikíya-hm-{**a**/**at**}]
Mary-NOM car DAT-stand:NG-when-{DS/SS}

pro.3$_i$ okpolo-t tookálhlhi-tok.
break.NACT-PTCP always-PST

'When Mary had a car$_i$, it$_i$ was always breaking.' (A_08-08-17_24, judgments)

While the behavior here of the theme argument is *not* like that of a canonical object (typically, objects cannot serve as the argument evaluated by the switch-reference system, cf. §2.7.3), there is a clear asymmetry between the theme argument and the dative argument, with respect to the availability of different-subject marking. Essentially, it seems as when the dative argument is coreferential with the subject of an adjacent clause, same-subject marking is mandatory. By contrast, when the theme argument is put in the same situation—when it is coreferential with the subject of an adjacent clause—same-subject marking is optional. In this way, the dative argument behaves fully like a subject, while the theme argument behaves 'partially' like a subject. This makes sense if we assume that the switch-reference system is sensitive not only to subjecthood, but to nominative case too—recall from §2.3.2 that the ABS object argument of dative-subject transitives may, exceptionally, bear nominative case (in chapter 6, §6.6 discusses the interaction of overt nominative case-marking and switch reference, for objects).[21]

21. In all of the examples here, the dative argument serves as the *pivot* (the tracked argument of the embedded clause, in the terminology of McKenzie 2012, 2015) and is evaluated against a canonical (non-dative) subject of a matrix clause (the *anti-pivot*). If we

The third argument that the dative NP in dative-subject transitives really is a subject comes from its ability to license the subject-oriented extrinsic plural marker *okla*, on which see §2.3.1. The sentences in (45) show that a transitive dative subject can license *okla*. In both examples, we also see that the alternative interpretation, in which *okla* associates with the theme argument, is unavailable.

(45) **Dative subject of dative-subject transitive can license *okla*; object cannot**

a. *Ofi yat okla im ashah.*
pro.3PL ofii-yat okla=im-ásha-h
dog-NOM PL=DAT-be:NG-TNS
'They have a dog/some dogs.' (G_08-09-17_82)
(not: 'She has some dogs.')

b. *pro.3PL* Kátos-at okla=im-ittola-tok.
cat-NOM PL=DAT-fall-PST
'They dropped the cat(s).' (E_08-09-17, judgments)
(not: 'She dropped the cats.')

Therefore, the dative argument of dative-subject transitives passes the *okla*-licensing test for subjecthood, and the theme argument fails it.

In this section, I have argued that the dative argument of dative-subject transitives should indeed be

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switch the roles around—that is, we make the dative subject the anti-pivot (in the matrix clause) and make the canonical, non-dative subject the pivot (in the embedded clause)—the judgments remain the same, to the best of my knowledge. The examples in (i) show that matrix-clause dative subjects can trigger same-subject morphology on an embedded clause.

(i) **Dative subject can always serve as anti-pivot**

a. *Tamáha ila átoksalách<u>i</u>hósh Mary at car i hikiyah.*
tamaaha ila aa-toksal-aachi-h-**oosh** Mary-at car i-hikíya-h
town different LOC-work-FUT-TNS-**SS** Mary-NOM car DAT-stand:NG-TNS
'She might work in another town, so Mary has a car.' (A_08-08-17_15)

b. *Mary at balílihmat holissot im ittolatok.*
Mary-at baliili-hm-**at** holisso-t im-ittola-tok
Mary-NOM run-when-**SS** paper-NOM DAT-fall-PST
'When Mary was running she dropped the letter.' (C_02-05-18_270)

And the examples in (ii) show that a matrix-clause nominative object may *or* may not trigger same-subject morphology on an embedded clause, when it is coreferential with the subject of that embedded clause.

(ii) **Object of dative-subject verb can optionally serve as anti-pivot**

a. *Tówat a kaníyatok, holitta awánablihmat.*
tóowa-t a-kaniiya-tok holítta awaanabli-hm-**at**
ball-NOM 1SG.DAT-lose-PST wall go.over.ACT-when-**SS**
'I lost the ball when it went over the wall.' (L_06-19-17_71)

b. *Holisso at halasbi hátoko im ittolatok.*
holisso-at halasbi-h-aatok-**o** im-ittola-tok
paper-NOM slipper-TNS-because-**DS** DAT-fall-PST
'The letter was slippery so she dropped it.' (L_06-19-17_57)

For the most part, speakers did not accept sentences where (a) a dative subject was coreferential with the subject of an embedded clause and (b) where that embedded clause was marked with different-subject morphology (i.e. equivalent to the rejected variants of (43)). Nonetheless, sentences like (iii) are attested in my database.

(iii) *Mary at sipoknihmako hina chanalli mat i hikiyáchih.*
Mary-at sipokni-hm-ak-**o** hina chanálli-m-at i-hikíy-aachi-h
Mary-NOM old-when-FOC-**DS** car-DEM-NOM DAT-stand:NG-FUT-TNS
'When Mary is old she will have that car.' (L_06-20-17_44)

This topic requires further investigation.

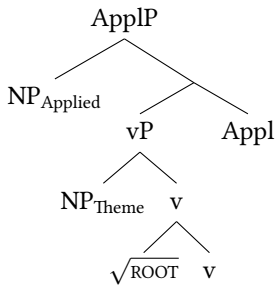
considered a subject. In the next section, I make the claim, first introduced in the introduction to the chapter, that dative case may be assigned to arguments in two different positions—Spec-ApplP and Spec-vP. This supports the analysis that DAT clitics really do realize a clitic with a particular case value, rather than an Appl head.

5.4 Two base-generation locations for dative arguments

I argue that a Choctaw DAT clitic like *chim-* (2SG.DAT) realizes an argument's [DAT] case value. This is to be contrasted with an alternative analysis in which DAT clitics are composed of an ABS clitic (*chi-*) adjacent to an Appl head on the clausal spine (*im-*). In this way, dative clitics differ from Choctaw's applicative prefixes, which I argue really *are* ABS clitics adjacent to Appl heads (see the chart in (10)).

To support this claim, let's consider a major difference between the 'DAT = dative case' account and the 'DAT = ABS + Appl' account. The necessary preliminary here is that applied arguments are uniformly introduced in a position from which they c-command the theme/direct object argument, as in the high applicative structure in (46) (Choctaw may also have low applicatives, but the c-command order of applied argument and internal argument would be the same, see Pylkkänen 2002, 2008).

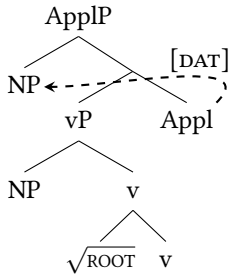
(46) **High applicative structure**



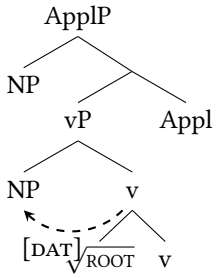
Under a 'DAT clitic = ABS + Appl' account, we would expect that a DAT clitic should only ever index the higher of two internal arguments, since an argument is 'DAT' by virtue of being merged in Spec-ApplP. By contrast a 'DAT clitic = dative case' account makes no such prediction, and we would not be surprised to find DAT arguments which are either higher or lower than the other internal argument, as in (47).

(47) **Dative case can be assigned in two syntactic positions**

a.



b.



Therefore, if we find evidence for predicates with DAT>ABS c-command order *and* predicates with ABS>DAT c-command order, this falsifies the 'DAT = ABS + Appl' account and leaves only the 'DAT = dative' account.

The rest of this section is spent showing that Choctaw does indeed have both kinds of transitive unaccusative verbs (predicates with two internal arguments and no external argument), with some showing an underlying ABS>DAT order, and some showing an underlying DAT>ABS order. The class of ABS>DAT verbs is made up of psych verbs that take optional stimulus arguments (see §4.4.2), exemplified in (48a). The ABS argument always ends up as the subject. The DAT>ABS class is more heterogeneous (see §4.5.3), but the kind of example I consider in this section is like that in (48b), where the DAT argument raises to become the subject.

(48) **Two kinds of transitive unaccusative verb**

a. ABS>DAT
John im ofi yat a nokshoopah.
John im-ófi-yat *pro.1SG* a-nokshoopa-h
John DAT-dog-NOM 1SG.DAT-scare.NACT-TNS
'John's dog is scared of me.' (E_08-18-17_22)

b. DAT>ABS
Hohchifo am ihaksih, hattak assanóchi ma.
pro.1SG hohchífo am-ihaksi-h, hattak assanóochi-m-a
name 1SG.DAT-forget-TNS man old-DEM-OBL
'I forget his name, that old guy.' (N_06-07-17_87)

In this chapter I show that ABS>DAT transitives, like (48a), differ from DAT>ABS transitives, like (48b), in three properties which, for theory-internal reasons, are likely to result from their arguments having different initial c-command orders. Firstly, the two kinds of sentence exhibit different *Person-Case Constraint* (PCC) restrictions on the ϕ-features of the two arguments (§5.4.1), and they differ in whether *absolutive promotion* (cf. §4.6.5) is possible. Secondly, the two configurations lead to the argument-doubling clitics appearing in different orders, at least for some speakers (§5.4.2). Thirdly, a different argument is targeted for reflexivization in each configuration (§5.4.3).[22]

22. The reader may be wondering why pronoun or variable-binding aren't employed as tests for c-command order. Pronoun-binding

This simple picture, in which ABS>DAT transitives always have an ABS subject and DAT>ABS transitives always have a DAT subject, is muddied by the existence of 'skipping' derivations, which were introduced in §5.1. In these, a low ABS theme argument 'skips' over an A-immovable DAT applied argument to become the subject of the clause. (49) exemplifies this kind of sentence, which have a *final* c-command order of ABS>DAT. Recall that A-immovable dative arguments have a very restricted set of possible interpretations, including beneficiary.

(49) **'Skipping' configuration: ABS argument moves past DAT argument to become subject**

Rope ato Bill ano i mokófatok.
rope-ato Bill-ano i-mokoofa-tok
rope-NOM.CONTR Bill-OBL.CONTR DAT-release.NACT-PST
'The rope came loose for Bill.' (A_10-18-18_38)

In this section, for the most part I compare the behaviors of clauses like (48a) and (48b), where the highest argument within the VoiceP becomes the subject, and leave those like (49) with skipping derivations out of the discussion. This is because most of the properties discussed in this section end up being, interestingly, inapplicable to the skipping structures. So while I am unable to show that clauses like (49) pattern with other initial-DAT>ABS configurations in (48b), as the theory developed here would lead us to expect, I *do* show that skipping configurations like (49) at least behave differently from initial ABS>DAT configurations like (48a), even though they both end up with ABS subjects and DAT objects.

5.4.1 Different PCC restrictions

Both ABS>DAT and DAT>ABS predicates are afflicted by PCC restrictions, but they take slightly different forms (Tyler 2019a,d). Furthermore, only ABS>DAT configurations may be 'rescued' by *absolutive promotion* (see §4.6.5). Both in its PCC restrictions, and in the (un)availability of absolutive promotion, Choctaw shows remarkable parallels to dialectal Western Basque, and I draw on previous analyses of the relevant facts in Basque to inform my analysis of Choctaw.

Regarding the PCC restrictions themselves, virtually all combinations of DAT and ABS clitic are banned, regardless of which order they show up in. (50) shows this for just one possible combination of DAT and ABS clitics, in an ABS>DAT verb (50a), and a DAT>ABS verb (50b).

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is not employed because Conditions B and C are evaluated following A-movement, obscuring mid-derivation reversals in c-command order. Variable-binding (e.g. 'I held each dog_i for its_i owner' vs. 'I held $their_i$ dog for each $owner_i$') is not employed because: (a) Choctaw's quantifiers are verbal or coverbal and I have no clear expectation of what their scope-taking behavior should be (cf. §2.4 and §2.6.2); (b) variable-binding may not be a particularly good source of evidence for c-command anyway (Barker 2012).

(50) **Most DAT/ABS clitic clusters are banned**

a. *Ch<u>i</u>-pi-nokshoopa-h.
2SG.DAT-1PC.ABS-scare.NACT-TNS
('We are scared of you.')

b. *Pi-chim-ihaksi-tok.
1PC.ABS-2SG.DAT-forget-PST
('You forgot us.') (Tyler 2019a)

However, the ABS>DAT verbs have a slightly weaker PCC restriction than the DAT>ABS verbs. Specifically, ABS>DAT verbs permit all and only those clitic combinations when the ABS clitic is 1SG (*sa-*). The three possible combinations are shown in (51). Note that the linear order of the clitics (here, DAT-ABS) is the *reverse* of their hierarchical ordering (ABS>DAT).

(51) **1SG.ABS>DAT clusters (linearly DAT-1.SG.ABS) are acceptable**

a. *Ch<u>i</u> sa noktalhah.*
ch<u>i</u>-sa-noktalha-h
2SG.DAT-1SG.ABS-jealous-TNS
'I'm jealous of you.' (H_06-11-16_94)

b. *Hach<u>i</u> sa nokshópah.*
hach<u>i</u>-sa-nokshoopa-h
2PL.DAT-1SG.ABS-scare.NACT-TNS
'I'm scared of y'all.' (E_06-14-16_8)

c. *<u>I</u> sa holloh.*
<u>i</u>-sa-hollo-h[23]
DAT-1SG.ABS-love-TNS
'I love him.' (A_06-08-17_64)

By contrast, the DAT>ABS verbs, for most speakers, do not permit *any* combination of clitics—though see §5.4.2 for a caveat.

This is where the first relevant comparison with Basque comes in. Like Choctaw, Basque distinguishes two classes of transitive unaccusative, one in which the dative argument can be shown to c-command the absolutive argument, another in which the c-command order is reversed. Notably, Basque DAT>ABS transitive unaccusatives show PCC effects, as in (52a), while in many varieties ABS>DAT transitive unaccusatives do not show these effects, as in (52b) (Albizu 1997).[24]

23. Broadwell (2006:144) lists *hollo* 'love' as taking an ERG subject and a DAT or ABS object. In addition to these frames, I found that speakers would also allow it to take an ABS subject and DAT object, as in (51c).

24. There is dialectal variation regarding PCC effects with Basque ABS>DAT verbs, all of which are motion verbs with dative goal arguments. See Rezac (2009) and Arregi and Nevins (2012) for discussion.

(52) **Basque: PCC restrictions depend on c-command order of arguments**

a. DAT>ABS: PCC effects present

*Ni me.ABS Itxaso-ri Itxaso-DAT gusta-tzen like-IMPF natzaio. AUX.1SGABS.3SGDAT

('Itxaso likes me.')

b. ABS>DAT: PCC effects absent (some varieties)

Ni me.ABS Peru-ri Peru-DAT hurbildu approach natzaio. AUX.1SGABS.3SGDAT

'I approached Peru.' (Rezac 2008b:63)

The exact nature of the PCC restrictions that hold (and do not hold) across the two configurations is not important for our purposes—what is important is that the different c-command order of the two arguments correlates with a difference in PCC restrictions. I propose that the different PCC restrictions we see for the two classes of transitive unaccusative in Choctaw similarly correlate with an underlying difference in the c-command order of the arguments.

The logic is as follows, and requires two preliminaries. The first preliminary concerns minimalist approaches to the PCC: it is generally taken to arise as a consequence of having two NPs serve as possible goals for a single agreement probe. Two-goals-one-probe configurations are fragile, and are liable to 'go wrong' when the goals have particular featural specifications or are arranged in certain ways (we need not pick a particular implementation of this idea—see Anagnostopoulou 2003b, 2005, Béjar and Rezac 2009, Nevins 2011 and Foley and Toosarvandani to appear for a range of approaches in this vein). The second preliminary is that in Choctaw, as we have seen, both ABS>DAT and DAT>ABS verbs show PCC effects of some variety. Under the approaches to the PCC just outlined, we must conclude that for both kinds of Choctaw verbs, the two arguments are within the search domain of a single agreement probe. So if PCC effects arise as a consequence of the arrangement of arguments in the search domain of a particular probe, *and* both ABS>DAT and DAT>ABS verbs have both of their arguments within the search domain of a particular probe, then the most straightforward explanation for the difference between them is that the two internal arguments have different c-command orders across the two verb types.

We can now turn to a second similarity between Choctaw and Basque, which also serves to support the analysis that the arguments of an ABS>DAT psych verb have a different underlying c-command order from the arguments of a DAT>ABS verb. The similarity concerns the availability of *absolutive promotion*, which was introduced in §4.6.5. Note that I took the name 'absolutive promotion' from a PCC repair operation in Western Basque, which has the same morphological consequences (Rezac 2008b, Arregi and Nevins 2012). To reiterate, absolutive promotion is when the ABS clitic in an ABS>DAT psych verb can be swapped out for the equivalent ERG clitic. It has the effect of obviating Choctaw's PCC restriction, since there are no

restrictions on the co-occurrence of ERG and DAT clitics, though as discussed in §4.6.5, it is not really correct to characterize it as a 'repair' operation (*contra* Tyler 2019a,d). The example in (53a) shows an ABS>DAT psych verb having undergone absolutive promotion. Importantly, absolutive promotion is *not* available for DAT>ABS verbs, as shown in (53b).[25]

(53) **Absolutive promotion is possible only for ABS>DAT configurations**

a. ABS>DAT: absolutive promotion OK
Ii-chi-nokshoopa-h.
1PL.ERG-2SG.DAT-scare.NACT-TNS
'We are scared of you.'

b. DAT>ABS: absolutive promotion impossible
*Ii-chim-ihaksi-tok.
1PL.ERG-2SG.DAT-forget-PST
('You forgot us.')

As before, there is a remarkable parallel with (some dialects of) Basque, which allows absolutive promotion with one class of transitive unaccusative verbs, but not the other. (54) shows that absolutive promotion can apply to DAT>ABS verbs (when they violate Basque's PCC): the ABS argument becomes ergative, indicated by both its case-marking and the agreement it controls on the auxiliary (Rezac 2008b, Arregi and Nevins 2012:69f.). By contrast, (55) shows that absolutive promotion cannot apply to ABS>DAT verbs. In the Onadarru dialect illustrated here, ABS>DAT verbs show PCC restrictions, but the prohibition against absolutive promotion with these verbs transcends dialects: if the dialect does show PCC restrictions here, then PCC-violating ABS>DAT verbs are unrepairable; if the dialect does not show these restrictions, then ABS>DAT verbs are fine without absolutive promotion (Arregi and Nevins 2012:77).

(54) **Ondarru Basque: absolutive promotion OK with DAT>ABS verbs**

a. *Ni-ri su ondo jaus-ten sasta.
me-DAT you.ABS well fall-IMPF AUX.2SGABS.1SGDAT
('I like you.')

b. Ni-ri su-(k) ondo jaus-te stasu.
me-DAT you-(ERG) well fall-IMPF AUX.2SGERG.1SGDAT
'I like you.' (Arregi and Nevins 2012:65, 69)

25. Davies (1986:5, 131) provides examples like (i), which appear to show *something like* absolutive promotion on a DAT>ABS verb. However, rather than the ABS argument being promoted to ERG, which is what happens in ABS>DAT verbs in Choctaw (and DAT>ABS verbs in Basque), here it is the DAT argument that becomes ERG, with the ABS argument showing an unexpected shift to DAT. One way to make sense of this is to assume that, for these speakers, the ABS component of the DAT clitic may be independently targeted for promotion, leaving behind the DAT component *im-*. This *im-* morpheme subsequently runs together with the adjacent ABS clitic, producing a 'fake' dative clitic like *chim-*.

(i) Chim-ihaksi-li-tok.
2SG.DAT-forget-1SG.ERG-PST
'I forgot you.' (Davies 1986:5)

However, the Mississippi Choctaw speakers I consulted did not accept this form or others like it as grammatical.

(55) **Ondarru Basque: absolutive promotion impossible with ABS>DAT verbs**

a. *Ni Miren-ei etorri nako.
me.ABS Miren-DAT come.PF AUX.1SGABS.3SGDAT
('I have come to Miren.')

b. *Ni-(k) Miren-ei etorri tzat.
me-(ERG) Miren-DAT come.PF AUX.1SGERG.3SGDAT
('I have come to Miren.') (Arregi and Nevins 2012:76-77)

Notably, the availability of absolutive promotion in Basque shows the *opposite* distribution from what we find in Choctaw. Basque allows absolutive promotion only with DAT>ABS verbs, while Choctaw allows it only with ABS>DAT verbs. However, that isn't directly relevant here: what *is* relevant is that in Basque, the availability of absolutive promotion is sensitive to the c-command order of the two arguments. Thus, one reasonable interpretation of the fact that absolutive promotion is limited to one class of Choctaw transitive unaccusatives is to assume that they too have underlyingly different c-command orders.

I have been unable to collect good data on PCC restrictions and the availability of absolutive promotion with transitive clauses that have *skipping* derivations (i.e. non-active verbs with applied beneficiary arguments, cf. §5.5). It is true that speakers would not readily accept sentences like (56a), with the same clitic cluster that is acceptable for ABS>DAT psych verbs, but this can likely be attributed to the pragmatic oddness of the sentence. Sentences like (56b), which show what the output of absolutive promotion would look like, are also judged to be unacceptable. However, more research on these kinds of sentence is required before any conclusions can be drawn.[26]

(56) **Skipping configurations show PCC restrictions and prevent absolutive promotion (tentative)**

a. ??Chi-sa-faama-h.
2SG.DAT-1SG.ABS-whip.NACT-TNS
('I got whipped for you.') (A_10-18-19, judgment)

b. *Is-sa-fama-h.
2SG.ERG-1SG.DAT-whip.NACT-TNS
('You got whipped for me.') (A_10-18-19, judgment)

To summarize this section, Choctaw ABS>DAT psych verbs and DAT>ABS verbs each show different PCC restrictions, and only one has access to the repair operation of absolutive promotion. Via a comparison with Basque, which shows a similar bifurcation of transitive unaccusatives, I propose that these differences indicate that the two arguments really do have a different c-command relation within the VoiceP.

26. An extra complication is that in order to test PCC restrictions on non-active verbs with applied arguments, the non-active verb needs to be one that is interpreted as introducing an implicit agent (on which see chapter 3). This is because non-active verbs that have inchoative interpretations generally prefer to index their lone argument with an ERG clitic (cf. chapter 3, footnote 63), thus obviating the restrictions on ABS/DAT clitic clusters.

5.4.2 Different clitic order

A second property suggesting that ABS>DAT psych verbs and DAT>ABS verbs really do have different underlying c-command orders concerns clitic ordering. We have just seen that, for most speakers, almost all combinations of DAT and ABS clitics are blocked. The only clitic combinations that all speakers allow are those in (51), where the ABS argument of an ABS>DAT verb is 1SG, creating a DAT-1SG.ABS clitic cluster. However, a number of speakers also allow some DAT>ABS configurations to have two-clitic clusters, in the event that the DAT argument is 1SG. This creates an ABS-1SG.DAT cluster, which is, notably, the reverse order of clitics from what we find for ABS>DAT verbs (DAT-1SG.ABS). An example is given in (57).[27]

(57) **Some speakers permit ABS-1SG.DAT clitic cluster**

Chi am ihaksitok.
%chi-am-ihaksi-tok
2SG.ABS-1SG.DAT-forget-PST
'I forgot you.' (A_06-12-17b_35, C_06-14-17_73, L_06-15-17_103)

The difference in clitic ordering across the two verb classes is plausibly a consequence of derivational timing (see §2.5.2 for my assumptions about the mechanics of clitic-doubling in Choctaw). Assuming the higher argument always cliticizes first (following the spirit of analyses such as Anagnostopoulou 2003b, 2005, Nevins 2011, Foley and Toosarvandani to appear), the difference in clitic ordering comes about because in ABS>DAT verbs, the first argument to cliticize is the ABS argument, while in DAT>ABS verbs, the first argument to cliticize is the DAT argument.

I have been unable to find any permitted combination of clitic on DAT>ABS verbs with skipping configurations (i.e. non-active verbs with applied arguments added). This is interesting in itself, however, because it shows that they do *not* pattern like ABS>DAT psych verbs, which also have ABS subjects and DAT objects, providing a small piece of evidence that they have different syntactic structures.

5.4.3 Different argument targeted for reflexivization

A third property that distinguishes ABS>DAT psych verbs from DAT>ABS verbs is which clitic gets replaced by a reflexive clitic under reflexivization. It appears that the lower of the two arguments is the one whose clitic gets replaced by a reflexive clitic: (58a) shows that in a ABS>DAT psych verb, the DAT clitic gets made reflexive; while (58b) shows that in a DAT>ABS verb, the ABS clitic reflexivizes instead.

27. It is interesting that while Broadwell (2006) does not discuss any specific banned combinations of clitics, the only examples he provides from DAT>ABS verbs are 1SG.DAT>2SG.ABS (*chi-am-*).

(58) **Lower argument is targeted for reflexivization**

a. ABS>DAT: DAT clitic is reflexive
Ili sa nokshópah.
ili-sa-nokshoopa-h
REFL.DAT-1SG.ABS-scare.NACT-TNS
'I'm scared of myself.' (C_06-14-16_48)

b. DAT>ABS: ABS clitic is reflexive
Ili am ihaksitok.
ili-am-ihaksi-tok
REFL-1SG.DAT-forget-PST
'I forgot myself.' (C_06-14-17_98)

Note also that the reflexive clitic is *not* subject-oriented (*contra* Broadwell 2006:101). The example in (59) shows a reflexive clitic coindexed with the other object of the verb, rather than the subject:[28]

(59) **Reflexive clitic is anaphoric on other object, not subject**

Alikchi yat ápisa chi ili pisáchihma, nata ish ili ahnitok?
alíkchi-yat aapísa chi-ili-pisaachi-hm-a, náta ish-ili-ahni-tok
doctor-NOM mirror 2SG.ABS-REFL.DAT-show-when-DS what 2SG.ERG-REFL-think-PST
'When the doctor showed you yourself in the mirror, what did you think of yourself?'
(C_06-30-16_119)

Under the assumption that reflexive arguments must be c-commanded by their antecedent (among other conditions, cf. Chomsky 1981), the difference between (58a) and (58b) can be treated as evidence that the arguments have different c-command orders within the VoiceP. Regarding those DAT>ABS transitives with skipping derivations (where the ABS argument becomes the subject), I was unable to successfully elicit any examples. This could perhaps be attributed to the syntactic ill-formedness of having a reflexive arguments in either position with these verbs, or perhaps to the pragmatic markedness of sentences like "I got whipped for myself". More investigation is required.

To summarize this section, we have seen that ABS>DAT psych verbs behave differently from DAT>ABS verbs in a number of ways, which I argue reflect a differing hierarchy of arguments within the VoiceP. If this analysis is corect, it implies that dative case can be assigned to arguments either in a high VoiceP-internal position (Spec-Appl), or a low VoiceP-internal position (Spec-vP). At the same time, this constitutes evidence *against* an analysis of DAT clitics in which the 'dative' component of the clitic is actually an Appl head, since under such an analysis we would expect DAT clitics to only be found in a single syntactic position.

In the next section, I make the case that applied arguments in Choctaw, which include but are not limited to dative arguments, come in two classes—those which may be targeted for A-movement to the

28. The example in (59) is somewhat artificial. It is also worth noting that *pisaa-chi* 'show' can be decomposed into *pisa* 'see' and *-chi* 'CAUS', and it is possible that the causee's ability to antecede the reflexive clitic could be due to causees having some subject-like properties.

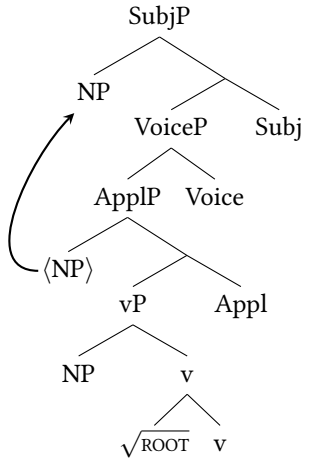
subject position, and those which resist it. I propose that 'A-immovable' applied arguments give rise to the 'skipping' derivations, in which the theme argument crosses over the applied argument to become the subject.

5.5 The interpretation of applied arguments

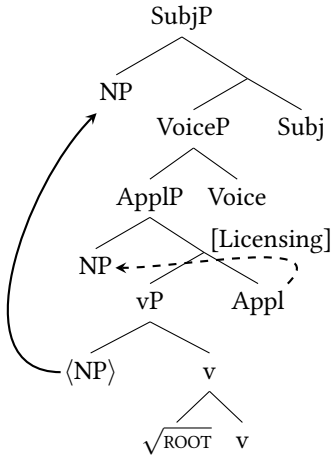
In the outline to this chapter (§5.1), I stated that Choctaw applied arguments come in two varieties: unlicensed applied arguments, which may move to subject position in an 'advancing' derivation as in (60a), and licensed applied arguments, which may not undergo further A-movement. When applied arguments are licensed *in situ*, the result is a 'skipping' derivation, as in (60b).

(60) **A-movable and A-immovable applied argument on non-active verb**

a.



b.

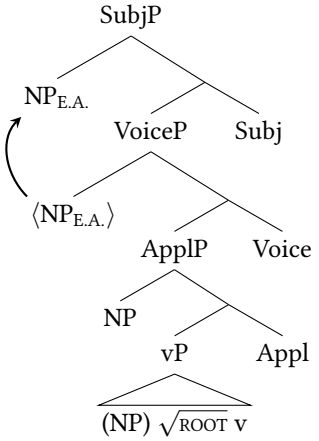


To show that both kinds of derivations exist, I focus mainly on dative arguments, which are a subtype of the larger family of applied arguments (see the chart in (10)). I examine in detail the possible interpretations of each type of dative, arguing that the primary empirical difference between the unlicensed, A-movable datives in (60a) and the licensed, inert datives in (60b) is in the thematic role they receive. Ultimately, it turns out that licensed datives have only two possible interpretations: they may be *beneficiaries* or *sources*. I show that unlicensed applied datives have a wider but still constrained range of possible interpretations, being *affected experiencers*, *engineers*, *predicative possessors* and *external possessors*. To capture the correlation between syntactic licensing and thematic role assignment, I propose that there are two phonologically-null, dative-assigning Appl heads. Appl1 fails to license its specifier and is associated with one set of allosemes; Appl2 *does* license its specifier and gets a different set of allosemes. The details of how licensing works is delayed until §5.6.

I focus in this section mainly on the interpretation of applied dative arguments added to *non-active* verbs

(on which see chapter 3). This is because it is only possible to determine the A-movable vs. A-immovable status of an applied argument when it is added to a non-active verb and thus *could* become the highest argument in its clause. By contrast, when an applied argument is added to a verb with an external argument, an unergative or transitive as in (61), the external argument is invariably targeted for movement to subject position, and it is impossible to determine the A-movability of the applied argument (external arguments are never licensed *in-situ* by Voice, and thus are always available to raise to the subject position).

(61) **Applied argument on verb with external argument**



There are two things worth noting before we examine movable (unlicensed) vs. immovable (licensed) applied arguments. First, not all dative dative arguments are unselected, or truly 'optional': some dative arguments seem to be mandated by the verb root, and with other roots, their interpretation can change in unpredictable ways if they have an 'optional' dative argument added to them (see also §5.2.1). It is hard to draw a clean line between selected and unselected dative arguments, and so in this section I cast the widest possible net, and any optional valency-increasing dative counts as an applied dative.[29] Obligatory, or truly *selected* dative arguments, are discussed in the appendix to this chapter (§5.9).

The second thing to note is that not all dative arguments can be classified as A-movable vs. A-immovable—for instance, the very frequent *goal* or *recipient* role is (almost) entirely restricted to dative arguments in object position, as in (62). This means there is no way of knowing whether this kind of dative falls into the movable or immovable class, and I largely set it aside in this section.[30]

29. The caveat that datives must be *valency-increasing* to count here is crucial, in that it explicitly excludes those intransitive verbs which may take either an ABS or DAT subject, or those transitive verbs which may take either an ABS or DAT object. each associated with a different interpretation. These verbs are discussed in the appendix in §5.9, on *selected* datives.

It is also worth pointing out that in the analysis here, verb roots do not select (or fail to select) dative *arguments*, exactly. Rather, they select or fail to select a v or Appl head, which itself must or must not merge with an NP argument (cf. §1.3.2).

30. Interestingly, the few verbs whose subject has a clear recipient role, such as *ikkana* 'learn' and *habiina* 'receive', cross-reference their subject with ERG clitics. See Broadwell (1988) for discussion. Note also that the recipient argument for verbs of communication is *not* necessarily confined to object position. For instance, the active verb *(im-)anooli* 'tell' has a non-active counterpart *(im-)annowa* 'be told', whose dative argument may function as a subject. See §5.9.2 for discussion of dative recipients in subject position with verbs

(62) **Dative recipients/goals in object position**

a. *Tówa ya alla i pilálitok.*
tóowa-ya alla i-pilaa-li-tok
ball-OBL child DAT-throw-1SG.ERG-PST
'I threw the ball to the kid.' (E_06-06-17_27)

b. *John at a holisso sokko falámat amah.*
John-at *pro.1SG* a-holisso sokko falaama-t am-a-h
John-NOM 1SG.DAT-book return-PTCP 1SG.DAT-give-TNS
'John gave me back my book.' (A_02-01-18_128)

Let's now turn to the interpretations of A-immovable (i.e. licensed) applied arguments (§5.5.1) and A-movable (i.e. unlicensed) applied arguments (§5.5.2).

5.5.1 The interpretation of A-immovable applied arguments

A-immovable applied arguments (i.e. those applied arguments which are *unable* to move to the subject position) come in dative and non-dative varieties. Dative A-immovable applied arguments have a restricted set of thematic roles—they are either *beneficiaries* or *source/locations*. Non-dative A-immovable applied arguments have an easily-identifiable set of overt applicative morphemes (by hypothesis, the exponents of Appl heads), which associate with fixed thematic roles (e.g. comitative, locative, and others). I discuss each kind of A-immovable applied argument in here.

Applied dative arguments in Choctaw are very often interpreted as beneficiaries, as shown in the following examples, where datives are added to unergative or transitive verbs. Note that the availability of the beneficiary with unergatives, as in (63b-c), and transitives that do not involve a transfer of possession, as in (63d), supports the claim that Choctaw has *high applicatives*, in the sense of Pylkkänen (2002, 2008).

(63) **Dative beneficiaries**

a. *Sipokni ma okkisa i tiwwilitok.*
sipókni-m-a okkísa i-tiwwi-li-tok
old.person-DEM-OBL door DAT-open.ACT-1SG.ERG-PST
'I opened the door for the elderly person.' (C_01-30-18_100)

b. *A kana ittiyápishi i hopónilitok.*
a-kána ittiyaapishi i-hopooni-li-tok
1SG.DAT-friend sibling DAT-cook-1SG.ERG-PST
'I cooked for my friend's sibling.' (C_06-14-16_76)

c. *Maryt a talówatok.*
Mary-t *pro.1SG* a-taloowa-tok
Mary-NOM 1SG.DAT-sing-PST
'Mary sang for me.' (H_06-16-16_72)

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of communication.

d. *John at holisso chito a hoklih.*
John-at *pro.1SG* holisso chito a-hókli-h
John-NOM paper big 1SG.DAT-hold:NG-TNS
'John is holding the book for me.' (A_02-01-18_126)

Dative arguments can also be added to non-active verbs (cf. chapter 3). In the examples in (64), they are interpreted as beneficiaries.

(64) **Dative beneficiaries of non-active verbs**

a. *Akakoshi yat am alwashatok.*
akakoshi-yat *pro.1SG* am-alwasha-tok
egg-NOM 1SG.DAT-fry.NACT-PST
'The eggs were fried for me.' (C_02-08-18_257)

b. *Rope ato Bill ano i mokófatok.*
rope-ato Bill-ano i-mokoofa-tok
rope-NOM.CONTR Bill-OBL.CONTR DAT-release.NACT-PST
'The rope came loose for Bill.' (A_10-18-18_38)

If we examine cases like (64), we find that the dative beneficiary argument functions as an object—that is, dative beneficiaries are A-immovable. (64b) shows that the theme argument bears nominative case and the beneficiary bears oblique, and (65) replicates this, adding oblique beneficiary arguments to *alwasha* 'fry (intrans.)' (65a) and *alhpiisa* 'be correct' (65b).

(65) **Dative beneficiaries of non-active verbs, marked with contrastive oblique case**

a. *Akakoshi mat sipokni mako im alwashattók, na alla alhíha ano kiyoh.*
akakoshi-m-at sipókni-m-ak-o im-alwasha-ttook, ná alla alhiiha-ano
egg-DEM-NOM old.person-DEM-FOC-OBL.SP DAT-fry.NACT-DPST NPI child group-OBL.CONTR
kiyo-h
not-TNS
'The eggs were fried for the elder, not for the kids.' (C_02-02-18_67)

b. *Bálokka mat John ossi kat im atapa ihókakósh Billy ano im alhpísa.*
baalokka-m-at John ossi-k-at im-atápa i-h-oo-kak-oosh
pants-DEM-NOM John small-COMP-SS DAT-exceed:NG LV-TNS-LINK-although-SS
Billy-ano im-alhpíisa
Bill-OBL.CONTR DAT-correct
'Those pants are too small for John but they fit Billy.' (C_06-14-17_38)

A-immovable datives also appear to have at least one other possible thematic role—source/location. This interpretation of the dative comes most easily when datives are added to verbs with an external argument, as in (66a), but (66b-c) show that dative arguments added to non-actives can have this reading also, and that dative arguments interpreted this way function as objects. (66d) also shows that dative arguments on motion verbs may function syntactically as objects and be interpreted as source/locations—see chapter 4 for evidence that some motion verbs behave like syntactic non-actives in Choctaw.

(66) **Dative source/location arguments**

a. *Ishitwashóha ma im íshih, kiyokma ili hottopálachih.*
ishitwashóoha-m-a *pro.3* im-iishi-h, kiyo-km-a ilii-hottopaal-aachi-h
toy-DEM-OBL DAT-take-TNS not-if-DS REFL-hurt.ACT-FUT-TNS
'Take that toy away from him or he will hurt himself.' (E_08-22-17_34)

b. Miko i-kátos-at *pro.3* im-ittola-tok.
chief DAT-cat-NOM DAT-fall-PST
'The chief's cat fell from her.' (C_06-14-17, judgment)

c. *John a bálokkat i hochítoh.*
John-a baalokka-t i-hochiito-h
John-OBL pants-NOM DAT-big.PL-TNS
'The pants are big on John.' (F_06-15-17_57)

d. *Chim ofi akósh chi balílih.*
chim-ófi-ak-oosh *pro.2SG* chi-baliili-h
2SG.DAT-dog-FOC-NOM.SP 2SG.DAT-run-TNS
'It's your dog that ran away from you.' (E_08-14-17_18)

To capture these two interpretation of A-immovable datives in Choctaw, we could posit the two rules in (67) for the denotation of Appl2 (the functional head that introduces, but fails to license, dative applied arguments). Neither rule includes an environment restricting its application, since both interpretations appear to be freely available for A-immovable datives.[31]

(67) **Allosemes of Appl2**

a. $[\![\text{Appl2}]\!] \leftrightarrow \lambda x.\lambda e.\textsc{beneficiary}(x, e)$

b. $[\![\text{Appl2}]\!] \leftrightarrow \lambda x.\lambda e.\textsc{source}(x, e)$

Turning now to Choctaw's non-dative applied arguments—locatives, superessives, comitatives and instruments—these are similarly unable to move to the subject position, and they function as objects even when added to non-active verbs. This is shown in (68-71) (compare with locative and superessive arguments in Chickasaw, §5.6.3). In each of the sets of examples in (68-71), the (a) example shows the applied argument being added to a verb with an external argument, while the examples that follow it show the applied argument being added to a non-active verb. It makes no difference—the oblique argument fails to become a subject in either environment. The applied argument is in a dashed box.

(68) **Locative applicatives**

a. *Am ahíka tamáha tannap mako áchilófalih.*
am-ahiika tamaaha tannap-m-ak-o aa-chiloofa-li-h
1SG.DAT-bill town other.side-DEM-FOC-OBL.SP LOC-pay-1SG.ERG-TNS
'I pay my bills on the other side of town.' (C_02-08-18_233)

31. It would also be possible to assume that each of the thematic roles is introduced by a different functional head ('Appl3' and 'Appl4'). These functional heads would then be identical in all other respects—being phonologically null, assigning [DAT] to their specifier, and licensing their specifier.

b. *Akakoshit áhopóni ya áyalwashah.*
akakoshi-t aahopóoni-ya aay-alwasha-h
egg-NOM kitchen-OBL LOC-fry.NACT-TNS
'The eggs were frying in the kitchen.' (C_02-02-18, judgment)

c. *Akana mat iki ya pit áhohchifoh.*
a-kána-m-at iki-ya pit aa-hohchifo-h
1SG.DAT-friend-DEM-NOM father-OBL towards LOC-name.NACT-TNS
'My friend is named after his father.' (example sentence from dictionary)

d. *Chippokni yat katako áyittolah.*
chi-ppókni-yat kátak-o aay-ittóla-h
2SG.ABS-grandmother-NOM where-OBL.SP LOC-lie:NG-TNS
'Where is your grandmother buried?' (I_08-16-17_132)

e. *Iti kasháapahmat ákobáfahmat itíhmat illitok.*
iti kasháapa-hm-at *pro.3* aa-kobaafa-hm-at itii-hm-at illi-tok[32]
tree piece-DEM-NOM LOC-break.NACT-when-SS tree-DEM-NOM die-PST
'When the branch broke off it, that tree died.' (K_06-27-16_7)

(69) **Superessive applicatives**

a. *Oklil o fohópat tahatok.*
pro.3 okl=il-o-fohoopa-t taha-tok[33]
PL=1PL.ERG-SUP-scatter.NACT-PTCP finish.NACT-TNS
'We all piled onto him.' (A_10-25-18_63)

b. *Chi wák nipi yat áhopóni o lowaka!*
chi-waak nípi-yat aahopóoni o-lowa-ka
2SG.DAT-cow meat-NOM stove SUP-burn-AFF
'Your steak is burning on the stove!' (H_06-11-16_183)

c. *Ohóyo mat nakni hicha tík alhíha im ábachísh attakakósh alla tík alhíha ano o palammih ahwah.*
ohooyo-m-at nákni hicha tiik alhiiha im-aabachii-sh atta-kak-oosh
woman-DEM-NOM boy and girl group DAT-teach-PTCP be.SG-although-SS
alla tiik alhiiha-ano o-palammi-h ahwa-h
child girl group-OBL.CONTR SUP-struggle-TNS seem-TNS
'That woman teaches boys and girls, but she has trouble with the girls.' (D_10-23-18_9)

(70) **Comitative applicatives**

a. *Matthew ibá toksalilachih.*
Matthew ibaa-toksali-l-aachi-h
Matthew COM-work-1SG.ERG-FUT-TNS
'I will work with Matthew.' (A_06-09-17_92)

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32. For the mid-30s speaker who uttered (68e), demonstrative *-m-* seems to have become *-hm-*, collapsing it with the realis 'when' complementizer *-hm-*. I have glossed the *-hm-* morphemes according to what their grammatical function *would* be were the sentence a close translation of the English free translation. However, it is possible that the sentence contains three embedded clauses, each marked with its own *-hm-* complementizer. See §2.7 for some discussion of constituents whose clausal vs. nominal status is hard to determine.

33. In (69a), a non-active verb form *fohoopa* (active: *fohobli* 'scatter') is used with ergative agreement. This is a less common use of non-active morphology (see chapter 3), where it marks an (agentive) reflexive meaning rather than an inchoative or passive meaning. See also: *lohmi* 'hide (tr.)'; *loma* 'hide oneself' (*'be hidden').

b. *Chokka ibá sa lowanah.*
chokka ibaa-sa-low-ana-h
house COM-1SG.ABS-burn-MOD-TNS
'I will burn with the house.' (H_06-11-16_139)

c. *Ofi mat i-hoposhnáyo ibáttolah.*
ofii-m-at i-hoposhnaayo ibaa-ttola-h
dog-DEM-NOM DAT-owner COM-fall-TNS
'The dog fell down with its owner.' (K_07-06-16_40)

d. *Sattikana ibá sa haksitok.*
sa-ttikána ibaa-sa-haksi-tok
1SG.ABS-friend COM-1SG.ABS-drunk-PST
'I got drunk with my friend.' (A_06-12-17a_62)

(71) **Instrumental applicatives**

a. *Ná lawah chokfi i hakshop ish isht ikbinah.*
naa láwa-h chókfi i-hakshop ish-isht=ikb-ina-h
thing many:NG rabbit DAT-skin 2SG.ERG-INSTR=make-MOD-TNS
'You can make a lot of things with rabbit skin.' (E_08-09-17_43)

b. *Áyipa yat ishttiwa isht kolófatok.*
aayipa-yat ishttíwa isht=koloofa-tok
table-NOM key INSTR=gouge.NACT-PST
'The table was gouged with a key.' (A_10-24-18_47)

c. *Bálokka mat ibbak isht lhiláfatok.*
baalokkaa-m-at ibbak isht=lhilaafa-tok
pants-DEM-NOM hand INSTR=rip.NACT-PST
'The pants were ripped up by hand' (A_10-24-18_50)

To capture the thematic roles assigned to the argument in Spec-ApplP by each of the overt applicative heads, we need only posit the simple rules in (72). Each overt Appl head is associated with just one rule.[34]

(72) **Interpretation rules for morphologically-overt Appl heads**

a. $[\![\text{Appl}_{\text{LOC}}]\!]$ (*aa-*) $\leftrightarrow \lambda x.\lambda e.\textsc{location}(x, e)$

b. $[\![\text{Appl}_{\text{SUP}}]\!]$ (*o-*) $\leftrightarrow \lambda x.\lambda e.\textsc{superessive}(x, e)$

c. $[\![\text{Appl}_{\text{COM}}]\!]$ (*ibaa-*) $\leftrightarrow \lambda x.\lambda e.\textsc{comitative}(x, e)$

d. $[\![\text{Appl}_{\text{INSTR}}]\!]$ (*ish(i)t=*) $\leftrightarrow \lambda x.\lambda e.\textsc{instrument}(x, e)$

To summarize this section, Choctaw's A-immovable dative arguments—those dative arguments which function as syntactic objects even when added to non-active verbs—can only be interpreted as beneficiaries, or source/locations. Choctaw's non-dative applied arguments exhibit the same syntactic behavior, always becoming objects no matter what kind of verb they are added to. I have proposed that all these applied arguments have the 'skipping' syntactic derivation in (60b), and that the inertness of the applied argument

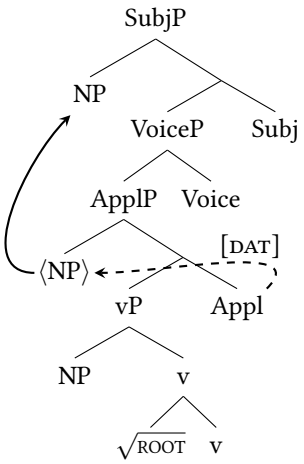
34. Choctaw also has a dedicated benefactive applicative formed with a DAT clitic and an applicative morpheme *im-* (cf. (10)). I assume that it too is A-immovable, though I did not collect data on what happens when '*im-i-*' applicatives are added to non-active verbs.

results from it being *licensed* in-situ by the Appl head that assigns it its thematic role. For A-immovable dative arguments, I have proposed that they are hosted in the specifier of 'Appl2', which has the two allosemes in (67); for those A-immovable applied arguments that are *not* dative, but are indexed by an ABS clitic followed by an applicative prefix, I have proposed that they are introduced by one of several overt Appl heads (Appl_{LOC}, $\text{Appl}_{\text{INSTR}}$, etc)—see §5.6 for a complete analysis. Next, I examine the interpretation of those applied arguments in Choctaw which *can* be targeted for A-movement. In the analysis presented here, these arguments are *not* licensed by Appl, leaving them free to move to the subject position.

5.5.2 The interpretation of A-movable applied arguments

A-movable datives are those which may undergo A-movement to the subject position when they are the highest argument in their clause—which is what happens when they are added to non-active verbs, as in (73). My analysis in this chapter is that A-movable datives are *not* licensed by Appl, though as the tree below shows, they may still be assigned case by it. In this section, I examine four kinds of interpretations that A-movable datives may receive.

(73) **A-movable applied argument with non-active verb**



Note that this class explicitly excludes two kinds of A-movable dative: the obligatory (rather than applied) dative arguments of certain intransitive verbs, discussed in §5.9.1), and the optional dative attitude-holder argument found with some attitude verbs like *(im)-ahwa* 'seem/think' and *(im)-anoowa* 'be said/be told', discussed in §5.9.2. Note also that I discuss only dative applied arguments in this section, since non-dative applied arguments appear to be generally A-immovable, at least in Choctaw (cf. the examples in (70-68); see also §5.6.3 for evidence that this generalization does not hold in Chickasaw).[35]

35. The one caveat to the claim that non-dative applied arguments are generally A-immovable comes from transitive psych verbs. I argue in §4.4.2 and Tyler (2019a) that the ABS-indexed experiencer subject of these verbs is in Spec-ApplP, with the stimulus argument

Turning now to the four interpretations of A-movable datives, two of the interpretations specifically relate the dative argument to the theme argument as its possessor—they are the *predicative possessor* and *external possessor* interpretations. Two further interpretations relate the dative argument to the event, either as someone who is adversely affected by it (the *affected experiencer* interpretation), or as someone who machinates for the event to take place (borrowing terminology from Myler 2014, 2016, I call this the *engineer* interpretation). I briefly discuss these four interpretations in turn, focusing on clauses where the dative is added to a non-active verb and becomes in a subject, corresponding to the derivation in (73).

Dative-subject transitives are perhaps most frequently used to convey predicative possession—see Broadwell (2006:340ff.) for discussion of this construction in Choctaw. This interpretation arises whenever dative subjects are added to quantifier verbs, such as *lawa* 'be many' in (74), or to positional verbs, such as *hikíya*/*hiyohmáya* 'stand' in (75). As Broadwell (2006:335-342) shows, there is a complex selectional relation between different kinds of themes (animates, upright objects, flat objects, etc) and the positional verb that describes the object's resting position. Virtually all positional verbs show allomorphy conditioned by the number of the theme argument—compare (75b-c) (see §4.5.2).

(74) **Predicative possession formed with quantifier verb**

a. *Alla yat lawatok.*
alla-yat lawa-tok
child-NOM many-PST
'There were a lot of kids' (K_06-27-16_29)

b. *Alikchi mat ofi i lawah.*
alíkchii-m-at ofi **i**-lawa-h
doctor-DEM-NOM dog DAT-many-TNS
'The doctor has a lot of dogs.' (I_08-09-17_92)

(75) **Predicative possession formed with positional verb**

a. *Áyobiníli faláyat hikiyah, chokka itikba.*
aayobiníili falaaya-t hikíya-h, chokka itikba
seat long-NOM stand:NG-TNS house in.front
'The couch is in front of the house.' (J_06-23-16_45)

b. *Áyipa bolokta hapi hikiyah.*
pro.1PL aayípa bolokta **hapi**-hikíya-h
table square 1PL.DAT-stand:NG-TNS
'We have a square table.' (F_06-20-17b_1)

c. *Cars at i hiyohmayah.*
pro.3 cars-at **i**-hiyohmáya-h
cars-NOM DAT-stand.PL:NG-TNS
'He has some cars.' (E_08-09-17_94)

in Spec-vP, the theme position.

Recall also from chapter 4 that in quantifier and positional verbs [ERG] case is assigned downwards from Voice to the internal argument. I showed in §4.7.1 that the addition of the dative argument *blocks* this downwards ergative assignment, and set the issue aside here.

Let's now turn to the other possession-related interpretation of dative-subject transitives: the *external possession* interpretation, which has received much attention in the Muskogeanist literature under the name 'possessor raising' (Nicklas 1974, Davies 1981a,b, 1984, 1986, Munro and Gordon 1982, Munro 1984b, Ulrich 1986, Broadwell 1990, 2006, Tyler to appear). The dative argument is related to the theme as its possessor, but unlike with the predicative possession examples, this relation forms part of the presupposed content of the sentence, rather than the main point of the assertion. This is reflected in speakers' English translations of these sentences. Choctaw speakers vary in terms of which non-active verbs they allow to form external possession constructions, but there is a core set of verbs with which all speakers I consulted allow external possession, including *illi* 'die', as in (76), and *oppolo*/*okpolo* 'break', as in (77).[36]

(76) **Dative subject is external possessor**

a. *Okfochósh at illih.*
ókfochoosh-at illi-h
duck-NOM die-TNS
'The duck died.' (N_06-07-17_1)

b. *Alikchi yat katos im illitok.*
alíkchi-yat kátos **im**-illi-tok
doctor-NOM cat DAT-die-PST
'The doctor's cat died.' (L_06-15-17_116)

(77) **Dative subject is external possessor**

a. *Ábiníli ish obiníli mat oppolotok.*
aabiníili ish-o-biniili-m-at oppolo-tok
chair 2SG.ERG-SUP-sit-DEM-NOM break.NACT-PST
'The chair you're sitting on broke.' (C_02-02-18_95)

b. *Mary at okkisa im-oppolo.*
Mary-at okkísa **im**-oppolo
Mary-NOM door DAT-break.NACT
'Mary's door is broken.' (A_08-17-17b_11)

The semantics of the predicative possession and external possession constructions cannot be captured by having Appl1 introduce a 'possessor' role, in the same way that Appl2 introduces beneficiary and source roles (see (67)). This is because possession involves a relation between two NPs, rather than (or at least in addition to) a relation between an NP and a verb or event. I discuss how predicative possession and external

36. Bob Frank (p.c.) asks whether there are restrictions on the nature of the possession relation that can be encoded by external vs. internal possession—for instance, does the cat in (76b) have to be the cat that the doctor keeps as a pet, or can it be the one that they are examining? I did not collect judgments on this, but it would be a very interesting question to investigate.

possession sentences are semantically composed in §5.5.3, with an analysis based on Myler (2014, 2016) and Tyler (to appear).

Two further interpretations for transparent dative subjects do not involve possession at all. The first of these is what I am terming the *affected experiencer* interpretation (following Bosse et al. 2012), in which the dative subject is involved in the event and affected by it (usually to their detriment). This construction may convey that the dative argument is an accidental causer of the event, as in (78b), or simply a helpless maleficiary of it, as in (79b). Note that in both (78b) and (79b), the theme argument has an internal possessor disjoint from the dative argument, showing that these are not instances of the external possessor construction.

(78) **Dative subject is affected experiencer**

a. *Paskat ittolah.*
páska-t ittola-h
bread-NOM fall-TNS
'The bread fell.' (A_01-29-18b_62)

b. *Chim ishtishko am ittolah.*
pro.1SG chim-ishtíshko **am**-ittola-h
2SG.DAT-cup 1SG.DAT-fall-TNS
'I dropped your cup.' (A_01-29-18b_96)

(79) **Dative subject is affected experiencer**

a. *A car hat filihmatok.*
a-car-hat filíhma-tok
1SG.DAT-car-NOM turn.NACT:HG-PST
'My car flipped over (suddenly).' (A_10-18-18_24)

b. *pro.1SG* chi-car-hat **a**-filíhma-tok
2SG.DAT-car-NOM 1SG.DAT-turn.NACT:HG-PST
'Your car flipped (suddenly) on me!' (A_10-18-18, judgment)
(Speaker is accusing addressee of selling them a dangerous lemon)

The Choctaw affected experiencer role has clear precedents in the "affected'' or "ethical" datives identified cross-linguistically (Borer and Grodzinsky 1986, Authier and Reed 1992, Pylkkänen 2008). I do not attempt a precise characterization of this role here, but two key properties are worth noting. Firstly, the affected experiencer argument may be 3rd-person and a full NP (unlike, for instance, *attitude holder* datives identified by Bosse et al. 2012):

(80) **Affected experiencer may be full 3rd-person NP**

Katie at chofak i kochófatok achokmat ishtbówa isht ik issocha.
Katie-at chofak i-kochoofa-tok achokma-t ishtbóowa isht=ik-íss-o-cha
Katie-NOM nail DAT-bend.NACT-PST good-PTCP hammer INSTR=IRR-hit:LG-NEG-and.SS
'The nail bent on Katie because she didn't hit it right with the hammer.' (A_10-18-18_44)

Second, the affected experiencer argument introduces *at-issue* meaning. We know this because in each of the examples in (81), the clauses, one negated and one not negated, can be uttered without giving rise to a contradiction. This is only possible because negation can target the dative argument alone, without negating the rest of the sentence, entailing that the dative argument must be at-issue.[37]

(81) **Affected experiencer may be targeted by negation**

a. Okkísa-t am-alhkama-tok kiyo-h. alhkama-to-kak-o̲ naksika
door-NOM 1SG.DAT-close.NACT-PST not-TNS close.NACT-PST-although-DS elsewhere
átta-li-tok.
be.SG:NG-1SG.ERG-PST
'The door didn't close on me. It closed, but I was somewhere else.' (A_04-03-19, judgment)

b. *Okkisa at am alhkamatok kiyoh, kana i̲la im alhkamatok.*
okkísa-at am-alhkama-tok kiyo-h, kána i̲la im-alhkama-tok
door-NOM 1SG.DAT-close.NACT-PST not-TNS someone different DAT-close.NACT-PST
'The door didn't close on me, it closed on somebody else.' (A_04-03-19_50)

See Bosse et al. (2012) for discussion of the cross-linguistic typology of applied arguments, from a syntax-semantics interface perspective.

The second non-possessive interpretation of A-movable datives is the *engineer* interpretation, borrowing Myler's (2014, 2016) terminology. In these clauses, the dative argument is interpreted as a kind of behind-the-scenes orchestrator of the event—the examples in (82b) and (83b) feature a figure of authority (a boss) effecting their will by ordering others. This usage translates well into English with a *have*-causative taking a passive complement. Note that some younger speakers I consulted did not have this reading, and it seems somewhat more effortful for speakers to get.

(82) **Dative subject is engineer**

a. *Abóhat pa̲shpówatok.*
abooha-t pa̲shpóòwa-tok
room-NOM sweep.NACT:YG-PST
'The room finally got swept.' (H_10-24-18_53)

b. *Tiwa chito at mi̲ti ka̲, mi̲ko yat abóshi yat i̲ pa̲shpowat taha yátok.*
tíwa chito-at mí̲ti-k-a̲, mi̲ko-yat abooshi-yat i̲-pa̲shpowa-t
opening big-NOM come:NG-COMP-DS chief-NOM room-NOM DAT-sweep.NACT-PTCP
táha yaa-tok
finish.NACT:LG be-PST
'Before the big opening, the boss had all of the rooms swept.' (A_10-18-18_56)

37. I attempted to test whether the affected experiencer dative could be *wh*-questioned (cf. Bosse et al. 2012 on Albanian, German and Japanese affected experiencers) but my investigation was inconclusive. Further work is required.

(83) **Dative subject is engineer**

a. *Okkisat ilápit tiwatok.*
okkísa-t ilaap-it tiwa-tok[38]
door-NOM self-PTCP open.NACT-PST
'The door opened by itself.' (A_10-16-18_99)

b. *Lashpa hátoko miko yat ápisa moyyoma ka i tiwat tahatok.*
lashpa-h-aatok-o miko-yat aapísa móyyoma-k-a i-tiwa-t
hot-TNS-because-DS CHIEF-NOM window all:YG-COMP-OBL DAT-open.NACT-PTCP
taha-tok
finish.NACT-PST
'It was hot so the boss had all of the windows opened.' (A_10-18-18_57)

The affected experiencer and engineer roles can be captured by positing the following allosemes for Appl1 (compare with the allosemes proposed for Appl2 in (67)):

(84) **Interpretation rules for Appl1**

a. $[\![\text{Appl1}]\!] \leftrightarrow \lambda x.\lambda e.\textsc{experiencer}(x, e)$

b. $[\![\text{Appl1}]\!] \leftrightarrow \lambda x.\lambda e.\textsc{engineer}(x, e)$

We have thus seen that A-movable datives that make it to the subject position (see (73)) can receive at least four kinds of interpretation. Two kinds of interpretation relate the dative argument to the event, either as an affected experiencer of the event or an engineer of the event. Two further kinds of interpretation have the dative argument as a possessor of the theme argument, and these require some special technology—specificaly, delayed saturation of thematic roles—in order to make the semantic composition work. I discussion the semantic composition of predicative possession and external possession constructions in §5.5.3.

Going beyond the 'macro-roles' identified here, the precise interpretation of the dative argument may be conditioned in part by the verb itself. For instance, *kaniiya*, when used without a dative subject, is typically a motion verb meaning 'leave', as in (85a).[39] But as (85b) shows, when it takes a dative subject it acquires a special meaning 'lose', with the dative subject being interpreted as the loser (see also Munro and Gordon 1982).

(85) **Addition of dative subject affects interpretation of root**

a. *Ish kaníya ka siyátaklammah.*
ish-kaniiya-k-a si-aatáklamma-h
2SG.ERG-leave-COMP-DS 1SG.ABS-bother.NACT-TNS
'I'm concerned that you left.' (A_06-16-17_80)

38. For discussion of suffixed forms of *ilaap*, see §3.7.3.

39. *Kaniiya* may also be used as a kind of a completive auxiliary (Broadwell 2006:209).

b. *Alla mat chi skali i kaníyatok.*
allaa-m-at chi-skali i-kaniiya-tok
child-DEM-NOM 2SG.DAT-money DAT-lose-PST
'That kid lost your money.' (E_06-01-17_91)

Some further examples of verbs whose dative subjects receive special verb-conditioned interpretations are shown below. *I-takoobi* 'be lazy' becomes 'tire of' with an extra dative subject (86), as does *ahchiba* 'take a long time' (87).[40] *Tiballi* means 'to get left behind', *i-tiballi* means 'to miss (a target)' (88). *(Im)-ittola* 'fall/drop', in (78), could also be analyzed as undergoing an unpredictable meaning change through the addition of an applied argument, and similar examples in closely-related Chickasaw are discussed in Munro and Gordon (1982).

(86) **Addition of dative subject affects interpretation of root**

a. *A tík at píh i takóbihósh chokka attah.*
a-tiik-at piih **i-takoobi**-h-oosh chokka atta-h
1SG.DAT-sister-NOM just DAT-lazy-TNS-SS house be.SG:NG-TNS
'My sister is at her house just being lazy.' (F_06-20-17a_31)

b. *Nana hokmako im itakóbit tahah.*
pro.3 nána-hokmak-o **im-itakoobi**-t taha-h[41]
something-every-OBL DAT-tire.of-PTCP finish.NACT-TNS
'He is getting tired of everything.' (C_02-05-18_232)

(87) **Addition of dative subject affects interpretation of root**

a. *Ofi chito ma hoppíchi ka ahchiba chohmitok.*
ofi chítoo-m-a hopp-iichi-k-a ahchiba-chohmi-tok[42]
dog big.NMZ-DEM-OBL bury.ACT-FUT-COMP-DS long.time-quite-PST
'It took a long time to bury the big dog.' (E_10-14-18_34)

b. *Movie pa am ahchibat tahah.*
pro.1SG movie-p-a am-ahchiba-t taha-h
movie-this-OBL 1SG.DAT-tired-PTCP finish.NACT-TNS
'I'm tired of this movie.' (A_02-08-18_51)

(88) **Addition of dative subject affects interpretation of root**

a. *Ilhkóli ka ik ikkánotokósh tiballicha attatok.*
ilhkooli-k-a ik-ikkáan-o-tok-oosh tibálli-cha átta-tok[43]
go.PL-COMP-DS IRR-know:LG-NEG-because-SS be.left:LG-and.SS be.SG:NG-PST
'He didn't know they left so he got left behind.' (C_02-05-18_52)

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40. *Im-itakoobi* 'tire of' exemplifies a small and interesting class of verbs which seem to have *two* dative clitics, the outer one cross-referencing the subject and the inner one appearing in a default form. See Nicklas (1996) for some discussion of the historical development of 'double datives' in Muskogean.

41. See §2.7.1 for discussion of the clausal morphology found on *nánahokmako* 'everything'.

42. I believe that the future suffix *-iichi* is an attested but much less common variant of *-aachi*.

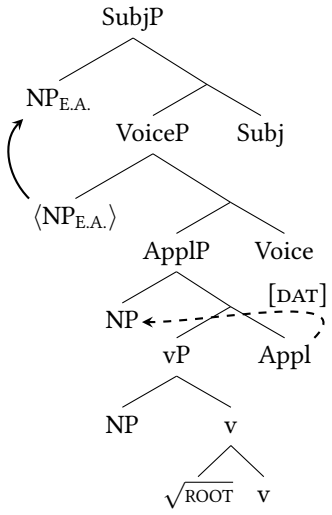
43. This construction, where *átta* takes a *-cha*-complement, is quite unusual, and I'm unsure how it differs in meaning from the more

b. *Awattat iyálitokakǫ issi mą ą tiballitok.*
awatta-t iyaa-li-to-kak-ǫ *pro.1SG* issi-m-ą ą-tiballi-tok
hunt-PTCP go-1SG.ERG-PST-although-DS deer-DEM-OBL 1SG.DAT-miss-PST
'I was out hunting and I missed the deer.' (D_04-15-19_61)

In all of the examples (85-88), the dative subject can be subsumed under the macro-role 'affected experiencer', although the addition of the dative argument does make unpredictable changes to the interpretation of the verb. I do not believe there are any dative-subject transitives where the dative subject is interpreted as anything *drastically* outside of the four macro-roles identified here, for instance, as a beneficiary, source or goal (though see the discussion of selected dative subjects in the chapter appendix in §5.9).[44]

We turn now to those clauses in which the A-movable dative argument is merged below an external argument, and so fails to make it to the subject position. These clauses correspond to the derivation in (89).

(89) **Applied argument does not move to subject position in presence of external argument**



In these cases, the dative object may still receive three of the four possible interpretations outlined above. It may be interpreted as a predicative possessor (90a), an external possessor (90b) or an affected experiencer (90c).[45]

common V-*sh ą́tta*.

44. Broadwell (2006:142) lists *im-achokma*, which means 'be happy' when used intransitively, as optionally taking an NP object and meaning 'like'. For such speakers, this verb assigns a non-engineer non-maleficiary role to the dative subject of a transitive verb. However, I found that while speakers could use *im-achokma* to mean 'like' in the presence of apparent clausal complements (on which see §5.9.2), it could not take nominal complements. To convey the meaning of 'like (an object or person)', speakers will generally use the ERG-ABS verbs *achokmali* 'like', *achokmahni* 'like', *(i-)hollo* 'love' or *ahniichi* 'love'. This is possible evidence that the comparative narrowing of the range of interpretations available to the dative subjects of transitives is a relatively recent phenomenon, though more research, especially diachronic research, is merited in this area.

45. Verbs of 'caused possession' like that in (90a) could also be given a *low applicative* analysis, in the sense of Pylkkänen (2008).

(90) **Interpretations of object applied argument**

a. Predicative possessor

Truck chi hilíchilách<u>i</u>h.

pro.2SG	truck	chi-hilii-chi-l-aachi-h
	truck	2SG.DAT-stand-CAUS-1SG.ERG-FUT-TNS

'I'm going to get you a truck.' (A_01-29-18b_121)

b. External possessor

John at nokówacha tasibo mat ná balíli am oppanitok.

John-at	nokóowa-cha	tasíbo-m-at	*pro.1SG*	naa balíili	am-oppani-tok
John-NOM	angry:LG-and.SS	crazy.NMZ-DEM-NOM		car	1SG.DAT-break.ACT-PST

'John$_i$ got mad and the crazy fool$_i$ crashed my car' (L_08-14-17_57)

c. Affected experiencer

Wíhat chokkowáli fokálihma, i chokka am okpanit tahlitok.

wiiha-t	chokkowaa-li-fokaali-hm-a,	*pro.1SG*	i-chokka	**am**-okpani-t
move-PTCP	enter-1SG.ERG-almost-when-DS		DAT-house	1SG.**DAT**-break.ACT-PTCP

tahli-tok
finish.ACT-PST

'Just as I was about to move in, he tore his house down **on me**.' (A_04-16-19_44)

In addition, dative objects can naturally be interpreted as beneficiaries, as in (63), or source/locations, as in (66a). These are the interpretations of A-*immovable* (i.e. licensed) datives, and they are possible for dative objects because the syntactic distinction between unlicensed, A-movable datives and licensed, A-immovable datives is neutralized in the presence of an external argument.

Interestingly, however, it seems that object datives may *not* receive engineer interpretations—for instance, the dative object of the sentence in (91) (cropped from (90b)) cannot be interpreted as any kind of engineer. I have no explanation for this.

(91) **Object applied applied arguments cannot be engineers**

Tasíbo-m-at	*pro.1SG*	naa balíili	am-oppani-tok.
crazy.NMZ-DEM-NOM		car	1SG.DAT-break.ACT-PST

'The crazy fool crashed my car.'
(#'I had the crazy fool crash the car.')
(#'The crazy fool had me have the car crashed.') (L_08-14-17_57, judgments)

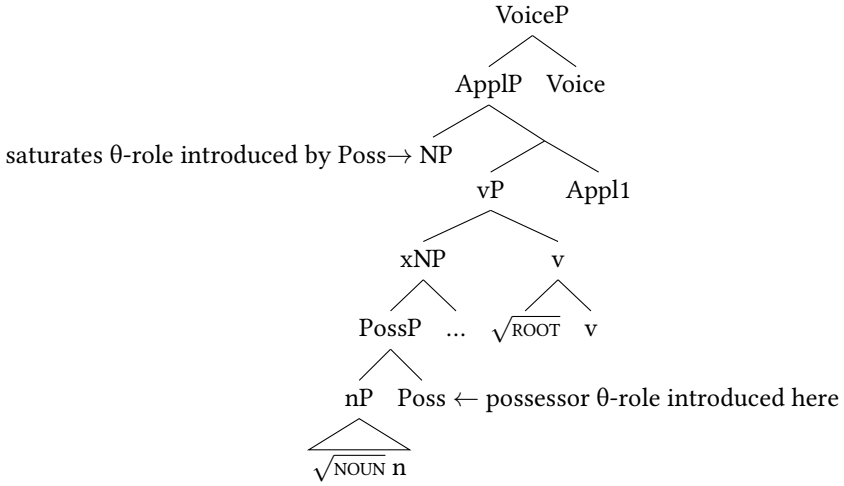
To summarize this section, we have seen that accessible applied dative arguments may receive one of four distinct interpretations—predicative possessor, external possessor, affected experiencer and engineer. The affected experiencer and engineer roles are introduced at Appl and saturated by the NP in Spec-ApplP (see §1.3.5 for my assumptions about semantic composition). The two possessor roles require some fancier semantic technology, by which the saturation of a thematic role may be 'delayed'—this is discussed in the final part of this section (§1.3.5). In addition, we have seen that the addition of the accessible dative may alter the interpretation of the root too. A complete summary is given in §5.5.4.

5.5.3 On the possessor roles

Possessor roles are categorically different from the other roles that applied arguments receive in Choctaw. Rather than simply involving a relation between the NP and an event, they involve a relation between the NP and *another NP*—the possessee. They may *also* involve a relation between the NP and an event (for instance, via an 'affectee' role of some kind) but this varies. In this section, I sketch an analysis of how applied dative arguments in Choctaw receive a possessor role in predicative possession and external possession constructions. The analysis of predicative possession roles is based on the analysis Myler (2014, 2016) develops for 'BE-APPL' possession constructions in Quechua; the analysis of external possession constructions is an abridged version of Tyler (to appear) (which is itself based on Myler's work).

The basic idea, for both kinds of possession construction, is that the possessor role is introduced in the denotation of a functional structure inside the possessed NP itself: a Poss head. But crucially, this role is not saturated by an NP merged inside the possessed NP. Instead, there is no suitable bearer for the possessor role merged inside the possessed NP and the possessor role is 'passed up' the syntactic structure until it can be satisfied by a higher applied argument, which is introduced in the specifier of an Appl head. This is schematized in a very informal way in the tree in (92) ('xNP' stands for whatever phrase constitutes the top layer within the extended projection of the NP).[46]

(92) **Informal schematization of delayed θ-role assignment in external possession construction**



'Passing up' a thematic role is a lot like what I propose takes place in the composition of 'extra effort' non-valency-increasing causatives (§3.4.4). There, an unsaturated causee role is introduced in the denotation of

46. This analysis predicts that only those possessors that are typically introduced in Spec-PossP—namely, alienable possessors—should be compatible with these predicative and external possession constructions (see §2.6.1 for a brief discussion of the syntax of NP-internal possessors). In Tyler (to appear) I show that this prediction is indeed true of the external possession construction. I don't know whether it holds of predicative possession too—more investigation is required.

Voice, and Voice combines with its complement vP via Event Identification in the usual way (see §1.3.5). But because no argument is merged in Spec-VoiceP to saturate the open causee role, the denotation of VoiceP, with this open agent slot, instead combines with the denotation of the next Voice head up by Predicate Conjunction (rather than Event Identification as usual). The result is that the predicate that combines with the eventual NP, merged in the higher Spec-VoiceP position, is a complex predicate with two open thematic roles, one from each Voice head.

But the difference between what happens in non-valency-increasing causatives and what happens in possession constructions is that, although they both involve 'delayed' saturation of a thematic role introduced low in the syntactic tree, in possession constructions the role must be delayed over a much greater distance. In (92) I show that some number of functional heads in the nominal spine of the possessed NP, may intervene between the Poss head, which introduces the unsaturated possessor role, and the NP in Spec-ApplP that eventually saturates it.

So how can the the saturation of the possessor role be delayed past this intervening functional material? Here, I invoke the semantic composition rule of *Function Composition* (mentioned but not explained in §1.3.5). The intuition behind Function Composition is that it may apply when Functional Application is *almost* possible, except that "the sister of A is one argument away from being the type A is looking for" (Wood 2015:27). The effect of Function Composition is to keep the first argument of a function 'open' until the next node up, and in practice it allows a thematic role to be introduced in one place in a syntactic tree, and 'passed up' the tree until the next argument is introduced. A formal definition is given in (93).

(93) **Function Composition (definition from Wood 2015:26)**

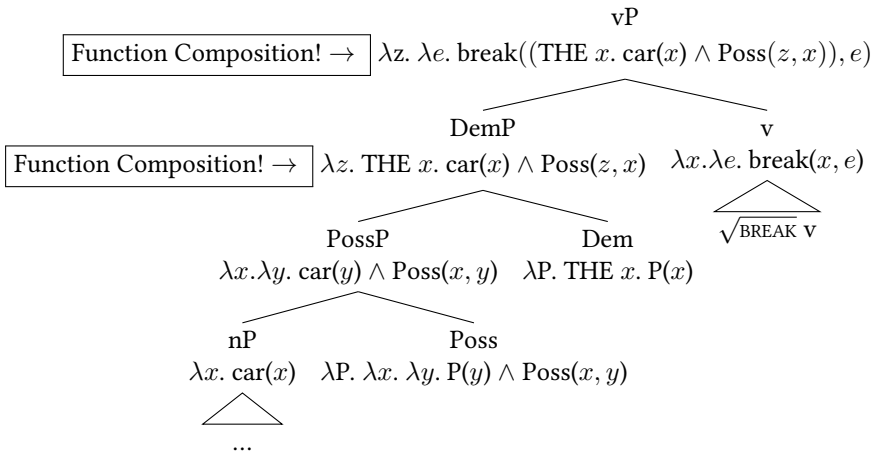
If α is a branching node, $\{\beta, \gamma\}$ is the set of α's daughters, where $[\![\beta]\!]$ is in $\mathrm{D}_{\langle b,c\rangle}$ and $[\![\gamma]\!]$ is in $\mathrm{D}_{\langle a,b\rangle}$, then $[\![\alpha]\!] = \lambda x_a.[\![\beta]\!]([\![\gamma]\!](x))$.

So in the structure in (92), the denotation of PossP is waiting to saturate its possessor role, but no NP is merged in Spec-PossP. PossP is unable to combine with the next head up via Functional Application—for concreteness, let's assume it's a Dem head (cf. §6.8.1)—because neither Dem nor PossP is of the right type to take the other as an argument (Dem is type $\langle\langle e,t\rangle, e\rangle$ and PossP is type $\langle e, \langle e,t\rangle\rangle$). Instead, Function Composition is employed—this is possible because the result of combining PossP with an argument of its desired type (e) would be a function of type $\langle e,t\rangle$, and thus able to combine with Dem by Functional Application.[47] A fragment of the tree in (92) (where xNP is now DemP, and the possessed NP is *hina chanálli* 'car', as in

47. With the types used in this example, Function Composition would *also* be able to compose in the opposite direction, resulting in a denotation for DemP of type $\langle\langle e,t\rangle, \langle e,t\rangle\rangle$. However, a DemP of this type would be unable to successfully compose with v, so I assume it is ruled out for that reason. Furthermore, this problem only arises with the highly simplified types employed here: if the type of PossP is made more complex (for instance, with an unsaturated event variable, cf. Myler 2014, 2016), this 'backwards' Function Composition would be unable to take place.

(91)), is shown in (94)—note especially how Function Composition combines the denotations of Dem and PossP, and the denotations of DemP and v.[48]

(94) **Composition tree for external possession construction**



Function Composition is employed over again up the functional sequence of the possessed NP each time a specifierless functional head is merged, and is employed again when NP(=DemP) merges as the specifier of vP. After each application of the Function Composition rule, the unsaturated possessor role first introduced in the denotation of Poss remains open, ready to be saturated.

Eventually the Appl1 head is merged. At this point, how the semantic derivation proceeds will depend on whether or not Appl1 itself introduces an *affectee* role—I argue that in external possession constructions Appl1 *does* introduce this role, and thus Appl1 and vP combine via Predicate Conjunction. By contrast in predicative possession constructions Appl1 does *not* introduce a role (i.e. it is an identity function), and thus Appl1 and vP combine via Functional Application.

So let's turn now to the difference between predicative possession and external possession constructions. In predicative possession constructions, I follow Myler (2014, 2016) in assuming that Appl1 is semantically vacuous—that is, Appl1 has a 'Ø' alloseme (cf. §1.3.5). In external possession constructions, however, there is some evidence that the external possessor must stand in a relation with the event, as well as a relation with its possessee. In Tyler (to appear) I provide some evidence that the possessor must be *affected* by the event. The sentences in (95) show some of this evidence: verbs denoting permanent states and verbs with unaffected objects are not compatible with external possession.

48. I use a simplified denotation for Dem, in which it forms a definite description out of a predicate.

(95) **Some verbs are incompatible with external possessor applicatives**

a. *Hattak-m-at lokka l̲obo i̲-chito-h.
man-DEM-NOM shirt round DAT-big-TNS
('The man's shirt is big.')

b. *Bill ofi i̲-há̲klo-li-tok.
Bill dog DAT-hear:NG-1SG.ERG-PST
('I heard Bill's dog.') (Tyler to appear)

We can capture this by saying that in external possession constructions, Appl1 has the experiencer-introducing alloseme in (96a) (repeated from (84a)). The NP in Spec-ApplP therefore receives both a possessor role, passed up from the Poss head inside the possessed NP as in (92), *and* an affected experiencer role introduced by Appl1 itself. As discussed above, in predicative possession constructions Appl1 is interpreted as an identity function, as in (96b).[49]

(96) **Allosemes of Appl1 in external and predicative possession constructions**

a. Alloseme of Appl1 in external possession constructions
$[\![\text{Appl1}]\!] \leftrightarrow \lambda x.\lambda e.\textsc{experiencer}(x, e)$

b. Alloseme of Appl1 in predicative possession constructions
$[\![\text{Appl1}]\!] \leftrightarrow \emptyset$

Note that I have not spelled out how it is that in predicative possession sentences, the possession relation between the applied argument and the theme is *asserted*, while in external possession sentences this relation is *presupposed*. I do not propose a solution here—possession sentences in Choctaw, and predicative possession sentences in particular, merit more investigation.

Note also that the applicative external possession construction described in this section differs from the external possession construction that seems to involve subextraction from the subject position. I refer to these 'very high' external possessors as 'possessor-topics', and they are discussed in §5.8 and in the next chapter (chapter 6) (see also Tyler to appear).

5.5.4 Interim summary: interpreting non-selected datives

The possible interpretations of A-movable (unlicensed) and A-immovable (licensed) datives are laid out in (97). Each attested cell in the table points to one or more numbered examples in this chapter. Note that only *non-selected* datives are included here. Those datives that are selected by the verb root are discussed in the appendix to this chapter (§5.9).[50]

49. As I discuss in Tyler (to appear), however, there is also some problematic data for the idea that external possessors are (necessarily) affectees. Notably, speakers would accept external possession sentences with dead possessors.

50. There is some evidence that applied dative arguments with goal roles may become the subject of a NACT verb too (see §5.9.2), but the evidence is thin and I omit goal NPs from the table.

(97) **Interpretations of dative arguments in different syntactic positions**

DAT argument is...	subject of NACT	object of ACT	object of NACT
Beneficiary	*	OK (63)	OK (64-65)
Source/location	?[51]	OK (66a)	OK (66b,c)
Predicative possessor	OK (74b,75b,c)	OK (90a)	*
External possessor	OK (76b,77b)	OK (90b)	*
Affected experiencer	OK (78b,79b)	OK (90c)	*
Engineer	OK (82b,83b)	*	*

In the left-hand column ('subject of NACT') are all the possible interpretations of the subject of a dative-subject transitive—i.e. those transitives formed by adding a dative subject to an non-active verb. These correspond to the structure in (73): the unlicensed, A-movable dative is the highest argument in its clause and raises to the subject position. In the right-hand column ('object of NACT') are the possible interpretations of the dative objects of non-actives. These correspond to the 'skipping' derivation in (60b), in which the dative argument is the highest argument within the VoiceP, but is crossed over by the theme because, by virtue of being licensed in-situ, it is not targetable for A-movement. These two interpretations—beneficiary and source/location—are disjoint from the interpretations available to A-movable datives. In the middle column are the possible interpretations of dative objects of transitive verbs. These can be any of the A-movable (unlicensed) dative roles from the left column (with the exception of the engineer reading) or the A-immovable (licensed) dative roles from the right column. The syntactic difference between the two kinds of dative is neutralized in the presence of an external argument, since the dative remains an object no matter what. Note that these are not the only interpretations we find for dative arguments—in the next section I discuss the idiosyncratic interpretations of dative-subject intransitive verbs. However, these *are* the only interpretations we find for optional, applied datives.

A complete run-down of the allosemes of Appl1, which hosts A-movable datives, and Appl2, which hosts A-immovable datives, is given in (98). How NPs get their experiencer, engineer, beneficiary and source roles is straightforward enough—the NP in Spec-ApplP saturates the thematic role introduced in the denotation of Appl. The assignment of possessor roles, in the predicative possession and external possession constructions, is a bit more complicated, but it involves Appl1 being interpreted either as an identity function or, possibly, as the assigner of experiencer role (cf. §5.5.3).

51. I mark this cell with a '?', since the subject of certain DAT-subject verbs like *im-ittola* 'drop' could reasonably be analyzed as having a source/location role, in addition to an affected-experiencer role.

(98) **All allosemes of Appl1 and Appl2**

Head	Interpretation
Appl1	$\lambda x.\lambda e.\textsc{experiencer}(x, e)$
	$\lambda x.\lambda e.\textsc{engineer}(x, e)$
	Ø (requires specifierless Poss inside theme NP)
Appl2	$\lambda x.\lambda e.\textsc{beneficiary}(x, e)$
	$\lambda x.\lambda e.\textsc{source}(x, e)$

An interesting property of the Choctaw system is that a large number of verbs can take both A-movable *and* A-immovable datives. I illustrate with the non-active verb *kochoofa* 'bend.NACT'. The sentence in (99a) provides a context which facilitates an affected-experiencer reading of the dative argument of *kochoofa*: Katie(=she) has a car propped on a jack, and would be adversely affected by the jack bending. The judgements for (99b-c) reflect those sentences' acceptability in the same context: (99b), in which Katie is a dative subject, permits a contextually-appropriate affected-experiencer reading; (99c), by contrast, in which Katie is a dative object, only permits a contextually-inappropriate beneficiary reading.

(99) ***Kochoofa* 'bend.NACT' is compatible with dative subject**

a. *Apissali banna kat alhlhi hókako jack at i kochófatok.*
apissali banna-k-at alhlhi-h-oo-kak-o jack-at i-kochoofa-tok
straighten want-COMP-SS true-TNS-LINK-although-DS jack-NOM DAT-bend.NACT-PST
'She tried to keep the jack straight but it bent on her' (A_10-18-18_47)

b. *Katie-at jack i kochófatok.*
Katie-at jack i-kochoofa-tok
Katie-NOM jack DAT-bend.NACT-PST
'The jack bent on Katie.' (A_10-18-18_49)

c. #Jack-at Katie i-kochoofa-tok.
jack-NOM Katie DAT-bend.NACT-PST
'The jack bent for Katie.' (A_10-18-18, judgment)

In contrast, the sentence in (100a) presents a context which facilitates a *beneficiary* reading of the dative argument of *kochoofa*—Katie benefits from the metal bending (this would be a *success-with-difficulty* reading in the typology of Schäfer 2007). (100a) and (100b), in which the dative argument is an object (as diagnosed by its oblique case), permit the appropriate beneficiary reading, while (100c), in which the dative argument is a subject, permits only a contextually-inappropriate affected-experiencer reading.

(100) ***Kochoofa* 'bend.NACT' is compatible with dative object**

a. Kánah-at móyyoma-t tali-p-a kochoffi bánna-sh máya-na
someone-NOM all:YG-PTCP metal-DEM-OBL bend.ACT want:LG-SS be.PL:LG-and.DS
shohbi-kak-o, polaka Katie-ano i-kochoofa-h.
all.day-although-DS finally Katie-OBL.CONTR DAT-bend.NACT-TNS
'People had been trying to bend this piece of metal all day, but it finally bent for Katie.'
(A_10-18-18, judgment)

b. *Katie ano talit i kochófatok.*
Katie-ano tali-t i-kochoofa-tok
Katie-OBL.CONTR metal-NOM DAT-bend.NACT-PST
'The metal bent for Katie.' (A_10-18-18_51)

c. #Katie-ato tali i-kochoofa-tok.
Katie-NOM.CONTR metal DAT-bend.NACT-PST
'The metal bent on Katie.' (A_10-18-18, judgment)

Thus we have seen that the same non-active verb may be combined with both A-movable datives (99) and A-immovable datives (100). Note that we have focused mostly on *unselected* datives. Those dative arguments that are selected by the root are discussed in an appendix to the chapter, §5.9.

In §5.6 I propose that the A-movability of the applied argument depends on whether or not Appl *licenses* it specifier, licensing being a purely-syntactic relation between a head and a phrase that is divorced from case-assignment and agreement. The analysis is supported by comparing Choctaw's applied arguments with those of its closest relative, Chickasaw.

5.6 On licensing

We have seen that when dative and other applied arguments are added to non-active verbs, they sometimes become the subject, and sometimes the object. I have proposed that this relates to whether the applied argument is 'licensed' or not by the Appl which introduces it. Licensed arguments resist further A-movement, so will not become the subject of the clause; unlicensed arguments will A-move to the subject position. In this section I flesh out the licensing analysis, showing that it the difference between A-movable and A-immovable applied arguments cannot be reduced to any independently-proposed relations that the applied argument enters into, such as Agree or case-assignment relations. Nor we would expect it to: the determination of A-(im)movability must take place in the syntactic derivation, while the model I adopt in this dissertation holds that Agree and case-assignment relations are established postsyntactically, on the PF branch.

First, in §5.6.1, I argue that the distinction between A-movable and A-immovable applied arguments is unlikely to derive from immovable arguments being enclosed in some extra syntactic structure, such as a PP shell. Then, in §5.6.2 I repeat evidence, presented earlier in this chapter, that the A-(im)movability of an applied argument is unrelated to the verb that hosts it. In §5.6.3 I show that A-(im)movability cannot be encoded as a subfeature or diacritic of dative case, since an NP's ability to A-move is not related to whether or not it has dative case. Additional data from Chickasaw shows that the bifurcation of applied arguments into A-movable and A-immovable is not determined by any universal principle, but is quite arbitrary. In §5.6.4 I

argue that the A-(im)movability of an applied argument ought to be encoded as a property of the Appl head that introduces the argument, since ability to A-move correlates very well with thematic role, which is also introduced into the semantic composition by the Appl head. I discuss the place of this 'licensing' relation in a taxonomy of syntactic relations.[52]

5.6.1 A-(im)movability is not a consequence of structural opacity

One explanation for variation in the A-movability of dative or applied arguments is that some of them have a particular syntactic property that makes them 'un-targetable' for syntactic operations. This is, in a sense, the kind of explanation I offer: the property of being licensed by Appl renders the NP in Spec-ApplP inaccessible for A-movement operations. However, in this section I argue against an alternative version of this idea, which is that A-immovable arguments are enclosed inside a 'syntactically opaque' PP shell. Versions of this have been proposed by Bittner and Hale (1996), Rezac (2008a), Caha (2009), Alexiadou et al. (2014a) and Baker (2015), among others.

The main problem with this analysis is simply that there is scant evidence for the existence of PPs in Choctaw—see §2.6.3. And to the extent that adpositions do exist, as 'adposition-like' verbs, they prevent their complement from being clitic-doubled on the main verb:

(101) **Complement of adposition-like verb is not clitic-doubled on main verb**

a. [$_{PP?}$ *pro*$_{1SG}$ Si-ashaka] ish-**(*sa/*sa)**-hikíya-h-o?
1SG.ABS-behind 2SG.ERG-**(*1SG.ABS/*DAT)**-stand:NG-TNS-Q
'Are you behind me?' (B_04-11-19_53, judgment)

b. Achi-t [$_{PP?}$ an-aak-o si-aapakna] (***sa**/***am**)-ittola-h.
blanket-NOM me-FOC-OBL.SP 1SG.ABS-on.top **(*1SG.ABS/*1SG.DAT)**-lie:NG-TNS
'The blanket is on top of me.' (B_04-11-19_87, judgment)

By contrast, throughout this chapter we have seen that both A-movable *and* A-immovable applied and dative arguments are always clitic-doubled on the main verb. Therefore if A-immovable arguments *were* contained within null PPs, they would behave unlike the closest thing Choctaw has to overt PPs, in that they would be transparent for clitic-doubling.

This caveat in fact highlights a broader conceptual problem for the PP shells approach: the PP shell would have to be opaque for A-movement, but transparent for clitic-doubling. If clitic-doubling is a form of

52. I do not remark on the large number of theories by which two internal arguments are rendered 'equidistant' from the subject position by some mechanism (e.g. Ura 1996, McGinnis 1998, 2004, Anagnostopoulou 2003b, Doggett 2004, Haddican and Holmberg 2015). These theories are designed to account for the contrast between 'symmetric' internal arguments, where both can become the subject, vs. 'asymmetric' internal arguments, where only the higher of the two internal arguments can. These theories are not especially helpful in accounting for the Choctaw facts, because the contrast in Choctaw double-internal-argument configurations is not between moving the higher argument vs. moving either argument, but instead it is between moving the higher argument vs. moving the lower argument. 'Equidistance', leading to optionality in which argument A-moves, is never an option in Choctaw double-internal-argument configurations. Interestingly, however, it may well be an option for some of Chickasaw's applied arguments—see §5.6.3.

movement (as assumed in §1.3.3), then this is inconsistent. If clitic-doubling is a kind of agreement, then we are in a potentially-tricky theoretical position. For instance, the system developed by Rezac (2008a) predicts that while there may exist oblique arguments that are targetable for A-movement but not agreement, there should *not* exist oblique arguments that are targetable for agreement but which resist A-movement. Yet this is exactly what we would have to posit for Choctaw.

See Preminger (2014:136f.) and Deal (2019) for further criticism of the 'null PPs' approach to argument immovability, on both empirical and conceptual grounds.

5.6.2 A-(im)movability is not determined by the verb hosting the dative

Another thing we can rule out as the locus of variation of applied arguments' A-(im)movability is the verb that hosts the applied argument. In (102), repeated from (19), we see that the same non-active verb *kochoofa* 'bend' may take an applied dative subject (102a) or an applied dative object (102b).

(102) **Non-active verbs can take dative subjects or objects**

a. *Katie at jack i kochófatok.*
Katie-at jack i-kochoofa-tok
Katie-NOM jack DAT-bend.NACT-PST
'The jack bent on Katie.' (A_10-18-18_49)

b. *Katie ano talit i kochófatok.*
Katie-ano tali-t i-kochoofa-tok
Katie-OBL.CONTR metal-NOM DAT-bend.NACT-PST
'The metal bent for Katie.' (A_10-18-18_51)

Therefore it seems unlikely that the A-(im)movability of an applied argument can be determined by some property of the verb that hosts it.

5.6.3 A-(im)movability is not a property of certain datives

I have focused in this chapter on the split behavior of applied arguments—some are accessible for A-movement and others are opaque to it. Interestingly, however, only *dative* applied arguments seem to split. By contrast, all of the ABS-doubled applied arguments (locatives, comitatives, superessives) are uniformly *not* A-movable, and remain objects when added to non-active verbs (cf. §5.5.1). One potential analysis of this split then, is that A-movability is a subfeature or diacritic of the dative case value that certain applied arguments receive. All other applied arguments are A-immovable 'by default'. This would be a version of the analysis first mooted (and dispensed with) in §5.2.2 that A-(im)movability results from whether the dative case is structural or inherent.

Setting aside possible concerns about what case features and values can and cannot do (the analysis

requires case values to be able to drive or constrain the syntactic derivation, which is explicitly ruled out by the theoretical assumptions I adopt, cf. §1.3.3), I argue in this section that this analysis has two problems. The first problem concerns the implementation: we know that ABS-doubled *applied* arguments resist movement to the subject position, but it remains the case that ABS-doubled 'regular' arguments (themes) still make perfectly good subjects. How can we account for this split if A-movability is only a property of certain *dative* arguments? The second problem is empirical: if we look to Choctaw's closest relative, Chickasaw, we see that there, certain ABS-doubled applied arguments (locatives and superessives) *are* A-movable. It therefore seems that the property of A-(im)movability completely cross-cuts the presence vs. absence of dative case.

Let's turn to the first issue, concerning implementation. It is clear that ABS arguments are broadly accessible for A-movement (see chapter 4). But as I showed in §5.5.1, Choctaw has a number of dedicated applicative prefixes introducing, among others, locative, superessive, comitative and instrumental applicatives. The arguments introduced by these applicative prefixes are mostly ABS,[53] yet they are also all unable to A-move to the subject position. In the following (a) examples, we see that the clitic associated with the applied argument is ABS, rather than DAT, but in the (b) examples we see that when this same applied argument is added to a non-active verb, the applied argument does not become the subject—the theme argument does instead, implying that the applied argument is A-immovable.

(103) **Locative argument is ABS and A-immovable**

a. *Yoppa issi áyikbih annǫpa ak ikkáno hátokǫ.*
pro.2SG yóppa laughter *pro.1SG* is-**si-aay**-ikbi-h 2SG.ERG-1SG.ABS-LOC-make-TNS annǫpa word
ak-ikkáan-o-h-aatok-ǫ
1SG.IRR-know:LG-NEG-TNS-because-DS
'You're making fun of me because I don't know the words.' (L_06-19-17_104)

b. Akąkoshi-t aahopóoni-yą **aay**-alwasha-h.
egg-NOM kitchen-OBL LOC-fry.NACT-TNS
'The eggs were frying in the kitchen.' (C_02-02-18, judgment)

(104) **Superessive argument is ABS and A-immovable**

a. *Issi ǫ nosinna!*
pro.2SG *pro.1SG* is-**si-ǫ**-nosi-nna
2SG.ERG-1SG.ABS-SUP-sleep-NEG.IMP
'Don't fall asleep on me!' (C_06-14-17_114)

53. Some applicative prefixes introduce arguments doubled by *dative* clitics. Broadwell (2006:153) refers to these as 'compound applicatives'—§5.1.

b. *Chi wák nipi yat áhopóni o lowa ka!*[54]
chi-waak nípi-yat aahopóoni **o**-lowa-ka
2SG.DAT-cow meat-NOM stove SUP-burn-AFF
'Your steak is burning on the stove!' (H_06-11-16_183)

(105) **Comitative argument is ABS and A-immovable**

a. *Mary im allat sabá toksalih.*
Mary im-alla-t *pro.1SG* **sa-baa**-toksali-h
Mary DAT-child-NOM 1SG.ABS-COM-work-TNS
'Mary's son is working with me.' (A_08-19-17_48)

b. *Chokka ibá sa lowanah.*
chokka **ibaa**-sa-low-ana-h
house COM-1SG.ABS-burn-MOD-TNS
'I will burn with the house.' (H_06-11-16_139)

(106) **Instrumental argument is ABS and A-immovable**

a. *Sattiyápishit ik sasht im ónoh.*
sa-ttiyaapishi-t *pro.1SG* ik-sa-sht-im-óono-h
1SG.ABS-sibling-NOM IRR-1SG.ABS-INSTR-DAT-
'My brother's not happy with me.' (A_04-16-19_53)

b. *Ofi mat iti ishit bówatok.*
ofii-m-at iti ishit=boowa-tok
dog-DEM-NOM stick INSTR=beat.NACT-PST
'That dog was beaten with a stick.' (D_10-19-18_57)

Therefore, the property of being A-movable or A-immovable cannot be stated as a subfeature or diacritic of dative case, since ABS-doubled arguments split into A-movable and A-immovable categories too.

At this point one might reasonably ask if Choctaw's ABS-doubled applied arguments, as in (103-105), are *really* 'ABS' in the same way as non-applied (i.e. 'theme') ABS arguments. A reasonable alternative analysis might hold that the applicative prefix should be taken as the spellout of a special case feature of value. Under such an analysis, these applied arguments would each have a special locative/superessive/etc case feature or value of their own. This case feature could then be uniformly associated with the property of A-immovability, just like the class of A-immovable datives.

A consideration of applied arguments in Choctaw's closest relative, Chickasaw, makes this analysis appear less likely. In Chickasaw the property of A-(im)movability cross-cuts not only the class of datives (107), but some ABS-doubled applied arguments too (108-109). (108) and (109) show ABS-doubled applied arguments functioning as objects of non-active verbs, just as they would in Choctaw. But the (b) examples show ABS-doubled applied arguments functioning as the *subjects* of those same non-active verbs, which

54. Interestingly, *aahopóoni* (lit. 'cooking place') is used in (103b) to mean 'kitchen' and (104b) to mean 'stove'.

would make them *A-movable* under the analysis presented here.[55]

(107) **Chickasaw: applied dative may be A-movable or A-immovable**

a. Chihoow-aat ihoo-a im-oktani-tok.
God-NOM woman-ACC DAT-appear-PERF
'God appeared to the woman.'

b. Ihoo-at Chihoow-aat im-oktani-tok.[56]
woman-NOM God-NOM DAT-appear-PERF
'The woman had God appear to her.' (Munro 1999:263)

(108) **Chickasaw: applied AGAINST argument may be A-movable or A-immovable**[57]

a. Nampanaa'-at anaako a-sa-shiiyalhchi-taha.
string-NOM 1SG.ACC AGAINST-1SG.ABS-be.tied-be.done
'The string is tied onto me.'

b. Anaakoot nampanaa'-at a-sa-shiiyalhchi-taha.
1SG.NOM string-NOM AGAINST-1SG.ABS-be.tied-be.done
'I have the string tied on me.' (Munro 1999:263)

(109) **Chickasaw: applied superessive may be A-movable or A-immovable**

a. Hashi'-at Jan-a on-toomi-tok.
sun-NOM Jan-ACC on-shine-PERF
'The sun shone on Jan.'

b. Jan-at hashi'-at on-toomi-tok.
Jan-NOM sun-NOM SUP-shine-PERF
'Jan had the sun shine on her.' (Munro 1999:263)

Therefore in Chickasaw, the property of being A-(im)movable cross-cuts not only the class of dative arguments, but also some classes of *non-dative* applied arguments (which in Choctaw are uniformly opaque).[58]

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55. In §5.5 I showed that, for dative applied arguments, whether or not that argument is A-movable correlates with its thematic interpretation. This is less clearly the case for Chickasaw ABS-doubled applied arguments: Munro and Gordon (1982), who analyze the (b) examples as being derived from the (a) examples by the application of an optional rule, argue that this rule is used to make non-subjects more 'salient' or 'prominent', likening it to (anti)passivization rules in other languages (see §5.2.1 for discussion of deriving applicative-subject constructions by rule). However, they do note that the change from an (a)-type sentence to a (b)-type sentence is, for some verbs, accompanied by a change in thematic interpretation, which goes beyond information structure.

56. Chickasaw lacks the case OCP effect barring adjacent nominative NPs that is found in Choctaw, as discussed in chapter 6.

57. Chickasaw *a-* 'AGAINST' is different from the locative applicative *aa-*, which exists in both Choctaw and Chickasaw (Munro 1989, 1999)

58. Ulrich (1986) provides the Choctaw examples in (i), which feature superessive and locative arguments functioning as the subject of weather verbs.

(i) **Marginal/dialectal: applied superessive and locative subjects of weather verbs**

a. Mike-at on-oktosha-h.
Mike-NOM SUP-snow-TNS
'Mike got snowed on.' (Ulrich 1986:268)

b. Oklahoma-atoh aay-oktosha-h.
Oklahoma-NOM.CONTR LOC-snow-TNS
'It's snowing in Oklahoma.' (adapted from Ulrich 1986:263)

However, the Choctaw speakers I consulted found that superessive and locative arguments of weather verbs could only be objects,

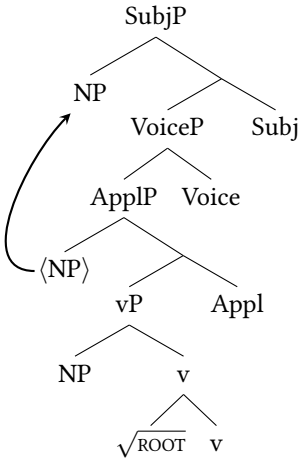
In this way Chickasaw provides further evidence that what case value an argument has is orthogonal to its A-(im)movability. And so we have yet more reason not to think of A-(im)movability as a subfeature or diacritic of dative case, but an independent syntactic property possessed by some applied arguments and not others. In the final part of this section, I propose that in Chickasaw, AGAINST Appl *a-* and superessive Appl *o̲-* *optionally* license their specifier, accounting for why applied AGAINST and superessive argument can freely switch between A-movable and A-immovable, apparently without their thematic role changing.

5.6.4 Proposal: variation in licensing by Appl

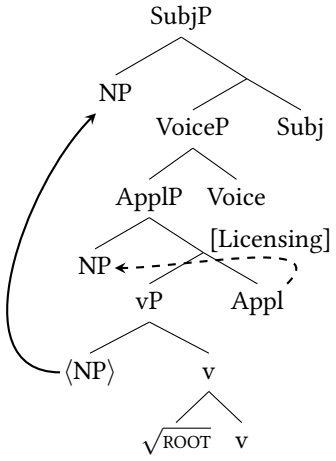
I propose that the distinction between A-movable applied arguments, which may become the subject of the clause when added to a non-active verb, and A-*im*movable applied arguments, which are always objects, is in terms of *licensing*. Licensing is a particular relationship between a functional head (e.g. Appl) and a constituent, which is established in the syntactic derivation, and prevents the argument in question from undergoing any further A-movement. The trees from (6) are repeated in (110): the unlicensed applied argument in (110a) may raise to the subject position; the licensed applied argument in (110b) may not, forcing the lower theme argument to 'skip' past it and move to the subject position instead.

(110) **Some Appl heads license Spec-ApplP, others do not**

a.



b.



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as in (ii). I assume that the subject position in these clauses is occupied by a null expletive (see Broadwell 1990:294f., 2006:271f. for discussion of why null expletive subjects might be independently necessary in Choctaw).

(ii) **My fieldwork: speakers reject applied superessive and locative subjects of weather verbs**

a. Jackson-(*at) aay-o̲ba-h.
Jackson-(*NOM) LOC-rain-TNS
'It's raining in Jackson.' (A_06-09-17_27, judgment)

b. Bogue Chitto-(#at) on-o̲ba-h.
Bogue Chitto-(#NOM) SUP-rain-TNS
'It's raining on Bogue Chitto.' (E_08-09-17, judgment)
(with *-at*, it means 'Bogue Chitto is raining on someone.')

Licensing, as I employ it here, is a lot like the traditional GB/Minimalist notion of *Case*-licensing (Chomsky 1981). Case-licensing is a relation established between a functional head and a constituent, which prevents that constituent from entering any more Agree relations and undergoing any further A-movement (via Chomsky's 2000, 2001 *Activity Condition*). But unlike Case-licensing, licensing as I employ it has nothing to do with (morphological) case, nor with agreement. This is line with a recent body of work that divorces argument-licensing from argument-marking (case and agreement/clitic-doubling), e.g. Pesetsky (2013), Sheehan and Van der Wal (2018).

At this point the reader may be wondering whether arguments *need* to be licensed by the end of the derivation, and if so, what licenses them? I do not take a position on either of these: licensing here should be simply understood as the donation of a syntactic diacritic from a functional head to certain arguments, which prevents them from undergoing further A-movement. See Nie (2020) for a much more complete exploration of the notion of argument-licensing in a state-of-the-art theoretical context.

In addition to avoiding the empirical and conceptual problems of the alternative analyses discussed so far in this section, the licensing analysis captures two important observations made in this chapter. The first of these observations is that the A-movability of a dative applied argument covaries with its thematic interpretation—immovable dative arguments get one set of roles and movable dative arguments get a different set of roles (§5.5). Having A-(im)movability be determined by a syntactic property of Appl captures this, since the thematic role that the applied argument receives is assigned to it by Appl—this reflects a widely-assumed property of of the interface between syntax and argument structure, which is that when a functional head H hosts an argument A in its specifier, H is generally the locus for A's thematic role (Kratzer 1996, Heim and Kratzer 1998, Pylkkänen 2002, 2008, Cuervo 2003, Ramchand 2008, a.m.o.).[59] Thus we can neatly divide up Choctaw's Appl heads into those which license their specifier and assign one set of roles, and those which do not license their specifier and have a different set of roles.

The second observation that the licensing analysis captures well is that when Appl *does* have a morphological exponent, as in the case of Choctaw's overt applicative prefixes (locative *aa-*, superessive *on-*, comitative *ibaa-*, benefactive *im-*, instrumental *ish(i)t-*), the applied argument associated with the prefix is generally fixed as A-immovable (though see the previous section for some exceptions in Chickasaw). Having A-(im)movability be determined by a syntactic property of Appl captures this: recall that in the model assumed here, morphological exponence and thematic interpretation are not directly connected but are mediated by syntactic structure. So when we find an element (e.g. Appl) whose morphological exponence (e.g.

59. The situation where datives are interpreted as possessors is a little more complex: I argue in Tyler (to appear) and §5.5.3 that the possessor role is 'passed up' from inside the possessed NP (cf. Wood and Sigurðsson 2014, Wood 2015, Myler 2014, 2016). Nonetheless, even in these environments, the Appl that introduces the possessor can still apply an additional thematic role to the possessor. I suggest that this additional role might be the source of some of the semantic restrictions on external possessors, which go beyond the restrictions that we find for NP-internal possessors.

aa-) is tied strictly to its thematic interpretation (e.g. 'location'), its exponence and interpretation must both be tied a specific *syntactic* property or properties.

A taxonomy of Choctaw's (and Chickasaw's) non-selected Appl heads is provided in (111), expanded from (13). It provides their morphological exponence (including whether or not they assign dative case to their specifier), what role or roles they assign, and whether or not they license the NP in Spec-ApplP. A few things are worth noting. First, the list of roles provided here does not correspond directly to the list of allosemes I provide in §5.5.4—this is because the thematic roles for Appl1 are complicated by the assignment of possessor roles to Spec-ApplP, delayed from the theme-internal Poss head. Second, $\text{Appl}_{\text{AGAINST}}$ *a-* occurs *only* in Chickasaw, cf. (108). Third, I do not include any potential *root-selected* Appl heads, like that which I proposed introduces psych experiencers in §4.4.2.

(111) **Unselected Appl heads in Choctaw/Chickasaw**

Appl	**Morphology**	**θ-roles**	**Licenses Spec-ApplP?**
Appl1	Ø + [DAT]	Predicative possessor External possessor Maleficiary Engineer	No
Appl2	Ø + [DAT]	Beneficiary Source/Location	Yes
Appl_{BEN}	*im-* + [DAT]	Benefactive	Yes
$\text{Appl}_{\text{INSTR}}$	*ish(i)t-*	Instrument	Yes
Appl_{COM}	*ibaa-*	Comitative	Yes
Appl_{LOC}	*aa-* (+ [DAT])	Locative	Yes
Appl_{SUP}	*o-*	Superessive	Yes (Chickasaw: Yes/No)
$\text{Appl}_{\text{AGAINST}}$	*a-*	AGAINST	Yes/No

There may be analyses that do not make use of an extra syntactic relation of 'licensing' to account for the difference between A-movable and A-immovable applied arguments. It is quite stipulative. At the very least, I hope to have shown the range of empirical data that a more principled theory would have to account for.

5.7 Conclusion

In this chapter I have argued two main points. First, in §5.4, I argued that DAT clitics double arguments with a [DAT] *case* value, which may be assigned to arguments in Spec-ApplP and Spec-vP (also inside the NP, though I set that aside here). Second, in §5.5, I argued that dative and applied arguments may undergo A-movement to the subject position, with the availability of this movement correlating with the thematic role the argument receives from Appl. This last point I recruited as evidence that Appls in Choctaw vary in

whether they *license* the NP in their specifier (§5.6).

The findings in this chapter have implications both for Muskogean linguistics and syntactic theory. Regarding Choctaw specifically, I believe the account put forward here supersedes the classic approaches to dative-subject transitives, in which they were divided into 'possessor raising' and 'dative raising'/'III-subjectivalization' constructions, which were considered to be derived from more basic intransitive or dative-object clauses. Regarding the implications for syntactic theory, I hope to have shown that there needs to be some syntactic mechanism by which A-movable arguments can be distinguished from A-immovable arguments, that does not make recourse to case. I have employed a mechanism of syntactic 'licensing', but other implementations would doubtless be equally workable. In a broader perspective, I have also shown that arguments may have more than one morphologically-exponable case value: the dative subject discussed in this chapter all have both a [DAT] value and a [NOM] value. The nature of the [NOM] value (and why there is no corresponding 'oblique' value) is discussed in the next chapter (chapter 6), and the theoretical consequences of allowing NPs to carry multiple values simultaneously are discussed in the concluding chapter (chapter 7).

5.8 Appendix: Possessor-topics

In §5.5.2 and §5.5.3 I showed that applied arguments can be interpreted as external possessors of theme arguments, provided certain syntactic and semantic conditions are met. In Tyler (to appear) I specifically contrast applied external possessors with another kind of external possession construction in Choctaw. This other kind of external possession construction does *not* involve an Appl head on the clausal spine—instead, in my analysis, it involves an NP-internal possessor subextracting from the subject position and moving to a left-peripheral position that is higher than the subject.[60] Following Munro and Gordon's (1982) argument that raised possessors in Choctaw and Chickasaw are topical, I refer to them in this dissertation as 'possessor-topics'. Notably, they are marked with nominative case—see chapter 6 for discussion and analysis.

Possessor-topics differ from applied external possessors in their morphology, semantics and syntax. On the morphological side, (112) shows that there is a possessor-indexing clitic on the possessee, but no clitic on the verb. This is the reverse situation from applied external possessors.

60. They fall under the category of external possession constructions that Deal (2017) refers to as 'Type B'.

(112) **Possessor-topic**

Miko at im alla talówah.
miko-at im-alla taloowa-h
chief-NOM DAT-child sing-TNS
'The chief's kid is singing.' (G_08-14-17_19)

On the syntactic side, (112) shows that external possession with possessor-topics is possible with unergative verbs. By contrast external possesion with applied datives is possible only with non-active verbs (a category which excludes unergatives, cf. chapter 3).

Finally, on the semantic side, in Tyler (to appear) I note that there is some evidence for a kind of 'affectedness' condition on applied-dative external possessors, which renders them incompatible with stative verbs. By contrast, (113) shows that no such condition exists for possessor-topics: it is fully compatible with stative verbs.

(113) **Possessor-topic is compatible with stative verb**

Kíyo, chishnakósh chi noshkobo at chitoh.
kiiyo, chishn-ak-oosh chi-noshkobo-at chito-h
No you-FOC-NOM.SP 2SG.ABS-head-NOM big-TNS
'No, you're the one who has a big head.' (A_08-07-17_85)

See Tyler (to appear) for a more extensive discussion of the two different kinds of external possession construction found in Choctaw.

5.9 Appendix: Selected datives

Some verbs obligatorily select for dative arguments. These datives may be the subject of a transitive or intransitive verb, as in (114), or the object of a monotransitive or ditransitive verb, as in (115).

(114) **Selected dative subjects**

a. *Chahta alhíha chokka ikbi yat okla iponna chohmih.*
Chahta alhiiha chokka íkbi-yat okla=i-ponna-chohmi-h
Choctaw group house build.NMZ-NOM PL=DAT-skilled-quite-TNS
'The Choctaw house-builders are quite skilled.' (F_07-21-16_139)

b. *Chi fokka chito chim ihaksinna.*
chi-fokka chíto chim-ihaksi-nna
2SG.DAT-clothing big 2SG.DAT-forget-NEG.IMP
'Don't forget your coat.' (L_06-20-17_86)

(115) **Selected dative objects**

a. *John at a holisso sokko falámat amah.*
John-at a-holisso sókko falaama-t am-a-h
John-NOM 1SG.DAT-paper thick return.NACT-PTCP 1SG.DAT-give-TNS
'John gave me back my book.' (A_02-01-18_128)

b. *Okkish at a pitiiblitok.*
okkish-at a-pitiibli-tok
medicine-NOM 1SG.DAT-worsen.ACT-PST
'The medicine made me worse' (A_10-25-18_82)

Some of these dative arguments have thematic roles that are similar to those we find for non-selected dative arguments. For instance, the dative subject of *im-ihaksi* 'forget' in (114b) could be interpreted as having a 'experiencer' role, characteristic of many non-selected dative subjects (§5.5). The only thing that needs to be said about this verb, then, is that the verb root $\sqrt{\text{IHAKSI}}$ obligatorily cooccurs with an Appl (see chapter 3 on how roots can demand certain properties of their surrounding syntactic structure). Likewise, *aa* 'give' in (115a) obligatorily takes a dative argument with a goal/recipient role, but this role is also found on many *non*-selected dative arguments, as shown with *pila* 'throw' below.

(116) **Non-selected datives may have a goal θ-role**

a. *Tówa aba pilatok.*
tóowa aba pila-tok
ball up throw-PST
'She threw the ball.' (F_06-22-16_4)

b. *Tówa ya alla i pilálitok.*
tóowa-ya alla **i**-pilaa-li-tok
ball-OBL child DAT-throw-1SG.ERG-PST
'I threw the ball to the kid.' (E_06-06-17_27)

Assuming that goal/recipient arguments are also introduced in an ApplP (Pylkkänen 2002, 2008), we need say nothing more about the verb root $\sqrt{\text{AA}}$ 'give' other than that it too obligatorily cooccurs with an Appl.

However, there are two classes of selected dative argument where we find interpretations that are *not*, to my knowledge, attested for non-selected datives. The first of these are dative *theme* arguments, which we find as the subjects of intransitives and the objects of transitives. An example is the dative object of *i-pitiibli* 'worsen' in (115b). I examine these in §5.9.1, and argue that the dative theme argument is merged within the vP, and is assigned a thematic role there (rather than being merged in Spec-ApplP and being restricted by the roles Appl can assign). Then, in §5.9.2, I consider a small class of dative-subject verbs which take propositional complements. I propose some possible analyses for these, but do not take a side.

5.9.1 Dative themes

Choctaw has a few transitive verbs which must take take a DAT object, such as *i-pitiibli* 'worsen/reinjure' and *i-shahli* 'exceed':

(117) **Transitive verbs with obligatory dative objects**

a. *Okkish at a pitiiblitok.*
okkish-at a-pitiibli-tok
medicine-NOM 1SG.DAT-worsen.ACT-PST
'The medicine made me worse' (A_10-25-18_82)

b. *A car himónat okpolo kat sipokni ma ishahlih.*
a-car himóona-t okpolo-k-at sipókni-m-a i-shahli-h
1SG.DAT-car new.NMZ-NOM break.NACT-COMP-SS old.NMZ-DEM-OBL DAT-exceed-TNS
'My new car breaks more than my old one.'
(lit. 'My new car exceeds the old one in breaking.') (A_04-02-19_131)

Choctaw also has a number of intransitive verbs whose lone argument is dative, as in (118). Some of them, such as *i-pitiipa* 'worsen/be reinjured' in (118a), are non-active alternants of transitive verbs with dative objects (cf. *i-pitiibli* 'worsen', in (117a)).

(118) **Intransitive verbs with dative subjects**

a. *A pitípatok.*
a-pitiipa-tok
1SG.DAT-worsen.NACT-PST
'I got reinjured.' (A_10-25-18_81)

b. *Am achokma kat ikkanalih.*
am-achokma-k-at ikkána-li-h
1SG.DAT-good-COMP-SS know:NG-1SG.ERG-TNS
'I know that I am happy.' (A_02-01-18_98)

c. *Am alhtaha fokálih.*
am-alhtaha-fokaali-h
1SG.DAT-ready-almost-TNS
'I'm almost ready.' (E_06-19-17_65)

d. *Chitakóbit tahah.*
chi-takoobi-t taha-h
2SG.DAT-lazy-PTCP finish.NACT-TNS
'You're too lazy.' (A_06-05-17_13)

Some of these intransitive verbs may take ABS subjects instead, with different interpretations: *im-achokma* 'like' (118b) has an ABS-subject counterpart *achokma* 'be good', and *im-alhtaha* 'be ready/be finished' (118c) has an ABS-subject counterpart *alhtaha*, which only means 'be finished'.[61] Others, such as *i-ponna* 'be skilled'

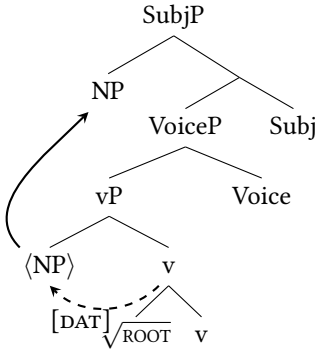
61. The verbs *taha* 'finish/be finished' in (118d) and *(im)-alhtaha* in (118c) are clearly diachronically related and have very similar meanings. What's more they are both the non-active member of a causative alternation: *taha* alternates with *tahli*; *(im)-alhtaha* with *atahli*. The connection between these forms requires further investigation.

(114a) and *i-takoobi* 'be lazy' (118d) lack dativeless counterparts entirely.

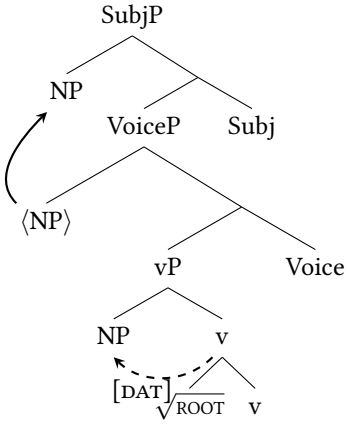
By way of analysis, I tentatively propose that the dative argument of these verbs is merged in the 'typical' internal argument position, Spec-vP. There, it receives lexical dative case from v (just like the dative argument of ABS>DAT psych verbs, cf. §5.4). This is schematized for a dative subject in (119a) and a dative object in (119b)

(119) **v can assign dative to internal argument in Spec-vP**

a.



b.



The dative argument is assigned a thematic role by the verb root, rather than by Appl, accounting for why it receives a theme role, rather than one of the interpretations more typical for dative applied arguments (on which see §5.5.4).[62]

We also know that the dative argument of the *intransitive* verbs must be A-movable, since it becomes a subject, carrying nominative case (114a) and serving as the evaluated argument for switch-reference (118b). This implies that it is *not* licensed in-situ by v (see §5.6 on how licensing constrains A-movement). We may wish to carry this analysis over to the transitives with dative theme objects—especially those transitives which form an active/non-active pair with an intransitive, e.g. *i-pitiibli*/*i-pitiipa* 'worsen', though I am unable to present further evidence either way.

One potential hitch in the analysis relates to the fact that this same set of verbs can take what appear to be clausal complements, while retaining essentially the same interpretation. The equivalents of (118), with clausal complements added, are shown in (120).

62. Intransitive dative subjects do not clearly have any of the four thematic roles identified for accessible datives in §5.5.4 (predicative possessor, external possessor, maleficiary or engineer). The subjects of *im-achokma* 'be happy' and *i-ponna* 'be skilled' could *perhaps* be understood as 'beneficiaries' in some sense, but they are different in two important ways. Firstly, the addition of a canonical beneficiary argument does not change the interpretation of the verb and is never obligatory, yet the verb *achokma* 'be good' instead means 'be happy' when the dative argument is added (*im-achokma*), while the dative argument is simply obligatory with *i-ponna* (there is no verb **ponna*). Secondly, it was shown in §5.5.1 that canonical beneficiaries in Choctaw cannot move to the subject position, but the dative arguments in (118-120) are clearly accessible for A-movement.

(120) **The dative-subject intransitive verbs in (118) can take clausal complements**

a. *Kana haksichi kat chiponnah.*
[kána haksichi-k-at] chi-ponna-h
someone trick-COMP-SS 2SG.DAT-skilled-TNS
'You are good at tricking people.' (A_01-29-18b_180)

b. *Nittak ayyokáli kma hashi pisa kat] am achokmah.*
nittak áyyokaali-km-a [hashi píisa-k-at] am-achokma-h
day each-if-OBL sun see:NG-COMP-SS 1SG.DAT-good-TNS
'Each day I like to watch the sunrise.' (M_06-06-17_15)

c. *Ish ábachách kat chim alhtahaho?*
[ish-aabach-aachi-k-at] chim-alhtaha-h-o
2SG.ERG-study-FUT-COMP-SS 2SG.DAT-ready-TNS-Q
'Are you ready to study?' (E_08-22-17_18)

Under the analysis presented above, we are left with the question of where optional clausal complements are merged. One possibility is that they are merged as a complement to v or the root, with the dative argument occupying v's specifier position (or vice versa). An alternative solution would be to take seriously the fact that the clausal complement is, as far as I know, only ever optional, never obligatorily selected, and assume that it is therefore an adjunct to the clause rather than an argument of the verb. This is not implausible, since Choctaw allows clauses with a *-k-* complementizer to be adjoined quite freely, and perform a variety of semantic duties, as shown in (121) (see Broadwell 2006:268-272 for discussion of complement and adjoined clauses introduced by *-k-*).

(121) **Adjoined *-k-* clause**

a. *Jane at anokfilli kat hattak at i holloh.*
[Jane-at anokfilli-**k**-at] hattak-at i-hollo-h
Jane-NOM think-**COMP**-SS man-NOM DAT-love-TNS
'Jane thinks the man loves her'
(literally 'In Jane's thinking, the man loves her.')[63] (F_06-15-17_84)

b. *Alla nakni ma fammitok, im alhpisáchách kat.*
alla náknii-m-a fammi-tok, [im-alhpisaa-ch-aachi-**k**-at]
child boy-DEM-OBL whip.ACT-PST DAT-right-CAUS-FUT-**COMP**-SS
'She whipped the boy to make him behave right.' (D_10-19-18_49)

c. *Chíkossit takla ka nipit alwashatok.*
[chiikossi-t takla-**k**-a] nípi-t alwasha-tok
short.time-NOM be.with-**COMP**-DS meat-NOM fry.NACT-PST
'The meat was fried for a short time.' (E_10-14-18_7)

However, finding ways to distinguish adjunct clauses from optional complement clauses is a project that goes beyond the scope of this chapter, and I set the issue aside for now.

63. See Broadwell (1991) and Broadwell (2006:199f., 289f.) on the 'according to' construction in Choctaw, exemplified in (121a).

5.9.2 Dative subjects of propositional attitude verbs

There are at least two verbs in Choctaw which take an optional dative subject and an obligatory propositional complement (either a clause/CP or an NP that can be interpreted as a proposition). One of these is *ahwa*/*ahoowa*/*ahooba* 'seem' (I use *ahwa* as a stand-in for all of its variants), as in (122).[64] In (122b) we see that with a dative subject, it means 'think' (i.e. 'it seems to X that …').[65]

(122) ***Ahwa* without and with dative subject**

a. *Na ish t̲oksalahí kiyoh chi tika̲bih átapah ahówah.*
[ná ish-t̲oksal-ahii-kiyo-h chi-tika̲bi-h aatapa-h] ahoowa-h
NPI 2SG.ERG-work-MOD-not-TNS 2SG.ABS-tired:NG-TNS too.much-TNS seem-TNS
'It seems you're too tired to work.' (E_08-22-17_107)

b. *Jane at kanat achokmahni kiyoh im ahwah.*
Jane-at [kána-t achokmahni-kiyo-h] im-ahwa-h
Jane-NOM someone-NOM like-not-TNS DAT-seem-TNS
'Jane thinks that no-one likes her.' (L_06-15-17_66)

Regardless of the exact nature of the thematic role the dative receives in (122b)—perhaps an *attitude holder*—it is clearly not one of the four identified for typical applied dative subjects (predicative possessor, external possessor, affected experiencer or engineer). One plausible analysis is that the optional dative subject argument is generated in Spec-ApplP, and Appl may exceptionally assign an attitude-holder role in the event that that v takes a propositional complement—although such a proposal could potentially weaken my claim that arguments generated in Spec-ApplP may not take on root-conditioned thematic roles. An alternative analysis is that the dative argument is merged within vP, like the dative intransitive arguments in §5.9.1, and so their interpretation is not constrained by the interpretative possibilities of Appl. Ultimately there is insufficient evidence at this time to decide between the options.[66]

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64. *Ahwa*, *ahoowa* and *ahooba* are likely not interchangeable. In particular, *im-ahwa* is far more common that *im-ahoowa* and *im-ahooba*. More research on these forms is required.

65. Note also that *ahwa*/*ahoowa*/*ahooba* can take an ERG subject, which must be coreferential with the subject of the embedded clause, as shown in (1). Because of this syntactic restriction, and because of the way that Choctaw speakers will often translate these sentences into English (as shown), I believe these are instances of a *copy-raising* construction. See also Artiagoitia (2001) for discussion of the parallel behavior of the Basque verb *iruditu* 'seem'.

(i) ***Ahwa* with ERG subject**

a. *Ik chim achokmoh ish ahówah.*
[ik-chim-achókm-o-h] ish-ahoowa-h
IRR-2SG.DAT-good:LG-NEG-TNS 2SG.ERG-seem-TNS
'You seem like you're upset.' (E_06-24-16_37)

b. *Alikchi chi abíkah ish im ahóbah.*
alíkchi [chi-abiika-h] ish-im-ahooba-h
doctor 2SG.ABS-sick-TNS 2SG.ERG-DAT-seem-TNS
'You seem to the doctor like you're sick.' (A_01-29-18b_149)

66. Note that the subjects of propositional attitude verbs come in DAT, ABS or ERG case. In addition to *im-ahwa*, with a DAT subject, attitude verbs with ABS holders include *banna* 'want' and *yimmi* 'believe', and those with ERG holders include *ikkana* 'learn', *ikk̲ána*

A second verb of this type is *annowa*, in (123). Without a dative subject, it means 'it is said that' or 'it is common knowledge that'; when used with a dative subject, it means 'be told that'.

(123) ***Annowa* without and with dative subject**

a. *Casino i̲la ibkáchi̲ ka̲ annowah.*
casino i̲la ibk-aachi̲-k-a̲ annowa-h
casino different make-FUT-COMP-DS tell.NACT-TNS
'It's said that they're building another casino.' (B_04-05-19_63)

b. *Alla tík mat ná im annowa kásh ma̲ ik akostiníchotok.*
alla tiik-m-at [naa im-annowa-k-aash-m-a̲]
child girl-DEM-NOM thing DAT-tell.NACT-COMP-PREV-DEM-OBL
ik-akostiníich-o-tok
IRR-understand:LG-NEG-PST
'That girl did not understand what was told to her.' (C_02-08-18_254)

This verb is interesting for a different reason—it is one of very few dative-subject verbs where the dative receives a goal/recipient role (the only other verb I am aware of with a goal/recipient dative subject is *im-alhtoba* 'be paid'). It therefore provides a (small) piece of evidence that dative arguments with goal/recipient roles are A-movable (and therefore unlicensed in-situ). Almost all other clear cases of goal/recipient datives have them in object position, making it impossible to tell whether they are A-movable or A-immovable (e.g. (116)).[67]

To sum up this appendix on selected dative arguments, I have shown that they may bear thematic roles that we do not find on non-selected/applied datives—specifically, theme and attitude-holder roles. I attributed this to their being merged within vP and receiving lexical dative case there, rather than being merged in Spec-ApplP. The result of this is that their interpretation is not constrained by the roles that Appl can assign. I also considered the class of dative-subject verbs with propositional objects, without offering a preferred analysis.

'know' and *ahni* 'think/want/hope'.

67. *(Im)-annowa* is a non-active verb with an active counterpart *(im)-anooli* 'tell'—see chapter 3 for discussion of the active/non-active alternation.

Chapter 6

Distributing and realizing nominative

Overt noun phrases in Choctaw may be marked with nominative or oblique case. A sentence illustrating both is provided in (1).

(1) *Hattak alhíha mat bashpo ma̲ haloppachitok.*
hattak alhiihaa-m-**at** bashpoo-m-**a̲** haloppa-chi-tok
man group-DEM-NOM knife-DEM-OBL sharp-CAUS-PST
'Those men sharpened that knife.' (I_01-31-18_123)

In this chapter, I aim to do two things. The first is to provide a more detailed description of Choctaw nominal case-marking than has been provided in previous work (though certain core aspects remain barely explored). Second, I aim to build theoretical model that will account for the distribution of the case-markers (and their absence), in the theoretical framework of minimalism plus Distributed Morphology that was outlined in chapter 1.

The model holds that the distribution of overt case-markers in Choctaw is the output of several sequentially-ordered morphological processes. The two processes that are important for understanding case-marking in Choctaw are firstly the *case-assignment* stage, where NPs capable of receiving case values become either underlyingly nominative or underlyingly oblique, modelled as the presence vs. absence of a [NOM] value on a case ([K]) feature. The second important process is when these [K] features are converted into exponable K nodes. Crucially, not all [K] features lead to the insertion of K nodes—some case features go unexpressed, leading to unmarked NPs. I show that the first component, where the [NOM] feature is distributed to NPs, and the latter component, where K is inserted or not, make use of different kinds of rules, and are sensitive to different parts of linguistic representations.

The chapter is organized as follows. §6.1 provides an overview of nominal case-marking in Choctaw, repeating some material from §1.2.6. §6.2 outlines the analysis. In §6.3 I provide four theoretical takeaways

from the analysis presented in this chapter, concerning the analysis of case systems and the distribution and realization of case features and values.

Following this series of introductory sections, I move on to the details of the analysis. §6.4 analyzes and provides an account of the distribution of the nominative case value. §6.5 looks at the counterpart case-marker to nominative—oblique—and shows that it has the distribution of an 'elsewhere' case. Based on this, I propose that oblique case-marking is the realization of a K head that does *not* have a nominative value.

§6.6 makes the argument that not all overtly-caseless NPs are alike: some have an underlying [NOM] value and others do not. The case value of an NP therefore cross-cuts whether or not it is overtly realized. §6.7 proposes an account of optional case-realization as optional Dissociated Node Insertion (DNI), its application restricted by certain constraints. §6.8 provides further detail, illustrating three morphosyntactic environments in which DNI of a case head (K) *must* take place. §6.9 then looks at the flipside of this: the environments in which DNI of a case head is categorically *blocked*. Finally, §6.10 offers some concluding remarks.

Note that all of the material discussed here builds on the analysis of the internal structure of NPs in §2.6.1. I mostly elide the internal syntactic differences between simple NPs, complex NPs, indefinite NPs, *wh*-NPs and pronouns. This is justified for the purposes of exploring case-marking, since they do not behave especially differently in that respect.

6.1 Overview of nominal case-marking

In this section I provide the briefest overview of Choctaw case-marking, much of it repeating what was said in chapter 2. The main purpose of the overview is to highlight that case-marking shows (at least) three interesting dimensions of morphologically or syntactically-conditioned variability:

(2) **Three dimensions of case-marking**
   a. NPs may have or lack overt case-markers.
   b. Overt case markers may be nominative or oblique.
   c. Overt case markers may be neutral, contrastive or 'special'.

Of these dimensions, I investigate and analyze the first two in detail—the third is mainly sidelined in this chapter.

The property in (2a)—that NPs may vary in terms of whether or not they bear overt case-markers—is illustrated by the objects in (3a-b) and the adjunct in (3c).

(3) **Case-marking on objects is optional**

a. Bill-at alíkchi-(**ya**) i-paya-tok
Bill-NOM doctor-(**OBL**) DAT-call-PST
'Bill called the teacher.' (A_06-09-17_43, A_06-09-17_45)

b. Chishn-ak-oosh iskali-(**at**) chi-kaniiya-h.
you-FOC-NOM.SP money-(**NOM**) 2SG.DAT-leave-TNS
It's you who lost the money.' (L_06-15-17_95,L_06-15-17_96)

c. Himak nittak-(**a**) ish-baliil-aachi-h-o?
now day-(**OBL**) 2SG.ERG-run-FUT-TNS-Q
'Are you going to run today?' (H_06-11-16_74, judgment)

These sentences also serve to illustrate the property in (2b)—that NPs may be nominative or oblique. Nominative case is found on subject NPs, but shows up in some other places too (e.g. the object in (3b)), while oblique is found on a wide range of non-subjects.[1]

The sentences in (3) all make use of what I term the 'neutral' case-markers *-(a)t* and *-a*. But as stated in (2c), the case-markers also appear in two other forms. The sentences in (4) exemplify the *contrastive* forms *-ato*/*-ano* (sometimes written *-atoh*/*-anoh*), and the sentences in (5) exemplify the 'special' forms *-oosh*/*-o*. Note also that an epenthetic *-y-* may be inserted before a case-marker and a vowel-final host word.

(4) **Contrastive case-markers**

a. *Pisachokma im ahwakako anáto kíyoh.*
pisachokma im-ahwa-kak-o an-**aato** kiiyo-h
good-looking DAT-seem-although-DS I-**NOM.CONTR** not-TNS
'She thinks he's good-looking, but I don't.' (A_01-29-18b_131)

b. *Anáno isht am alhpísa kásh John ano i chitoh.*
an-**aano** isht am-alhpiisa-k-aash John-**ano** i-chito-h
me-**OBL.CONTR** INSTR 1SG.DAT-right-COMP-PREV John-**OBL.CONTR** DAT-big-TNS
'It fits me, but it's too big for John.' (A_06-08-17_58)

(5) **Special case-markers**

a. *Mary akósh ofi im abíkah.*
Mary-ak-**oosh** ofi im-abiika-h
Mary-FOC-**NOM.SP** dog DAT-sick-TNS
'It's Mary whose dog is sick.' (L_08-07-17_12)

b. *Hattak mat kataho i toksalih?*
hattak-m-at kátah-**o** i-toksali-h
man-DEM-NOM who-**OBL.SP** DAT-work-TNS
'Who does that man work for?' (G_08-14-17_31)

For reference, the full paradigm of case-markers is given in (6).

1. As discussed in §1.2.6, much previous literature on Choctaw, and other Muskogean languages with a similar nominal alignment system, calls oblique case 'accusative'. However, I believe that 'oblique', (also employed by Nicklas 1974) is more transparent, given the heterogeneous syntactic environments in which it is found—see §6.5.

(6) **All case-markers**

	Nominative	**Oblique**
Neutral	-at/-t	-a̲
Contrastive	-ato	-ano
Special	-oosh	-o̲

The syntactic and morphological factors that condition the nominative vs. oblique marking of an NP, and whether it is overtly case-marked at all, are discussed throughout this chapter. In the analysis in this chapter, 'nominative vs. oblique' and 'exponed vs. unexponed' are determined separately, with the former being determined in the syntax and the latter being determined in the postsyntactic, morphological component of the grammar. As mentioned above, in this chapter I collapse the distinction between the regular, contrastive and special case-markers (though see the chapter appendix in §6.11 for a brief description and account of the distribution of the special case-markers, see also §2.6.1).

Finally, recall from §2.7.3 that the case-markers lead double lives as switch-reference markers: nominative case suffixes attach to clauses as same-subject markers; oblique suffixes attach to clauses as different-subject markers. There, I suggested that switch-reference markers *are* the case-markers (and are not simply homophonous with them). I am unable to explore this connection here, for reasons of space, but switch-reference does play a role in this chapter, diagnosing whether unmarked object NPs carry an underlying [NOM] feature or not (§6.6).

6.2 Outline of analysis

I present an analysis of Choctaw nominal case-marking that is divided into two stages within the postsyntactic, morphological derivation (the 'PF branch'). First there is the case-assignment stage, during which a nominative ([NOM]) case value is distributed to certain NPs which have a [K] feature. Then there's the Dissociated Node Insertion (DNI) stage, during which case ([K]) features are realized (or fail to be realized), modelled as the insertion or non-insertion of a K node atop the extended projection of the noun. I present an overview of each of these in sections 6.2.1 and 6.2.2.

6.2.1 Valuing the [K] feature

Given that Choctaw's nominal case system makes a single distinction, between nominative and oblique, it can be modeled formally as the presence vs. absence of a single diacritic. I propose that nominative NPs are in possession of a particular diacritic ([NOM]), while oblique NPs lack it. The evidence for associating nominative, rather than oblique, with the positive presence of a diacritic is discussed in §6.5—oblique case

has a distribution characteristic of an 'elsewhere' or 'default' case, while nominative is associated with a more limited, unifiable set of syntactic environments.

Regarding the nature of this diacritic, I propose that [NOM] is a possible value for a case feature [K], which is borne by all eligible nominals—see chapters 4 and 5 for similar treatments of the [ERG] and [DAT] values. To recap the theoretical assumptions from chapter 1, constituents that are eligible to bear case (mainly NPs but some CPs too) enter the derivation equipped with an unvalued case feature [K]. In the course of the derivation, this feature may be valued with one value (e.g. [K:NOM]), or with multiple values (e.g. [K:NOM,ERG]), or it may remain unvalued entirely (remaining as [K]). However, possession of the [K] feature is a prerequisite for receiving case values and taking part in case dependencies. Note that it is in this chapter that the benefits of this somewhat arcane system, with a [K] feature and its values, become clear.

On the issue of how nominative case values are distributed to nominals, I employ a case-assignment-from-a-functional head analysis, which I first outlined in chapter 1, employed in chapter 4 to account for the distribution of ERG clitics, and employed again in chapter 5 to account for the distribution of DAT clitics. To reiterate, this kind of analysis of case-assignment follows the contours of the case-under-Agree account proposed in Chomsky (1981), though it strips out the part of the analysis whereby NPs require 'licensing' by Case. The basic idea is that nominative case on an NP is a reflection of a structural relation between the NP and some functional head.

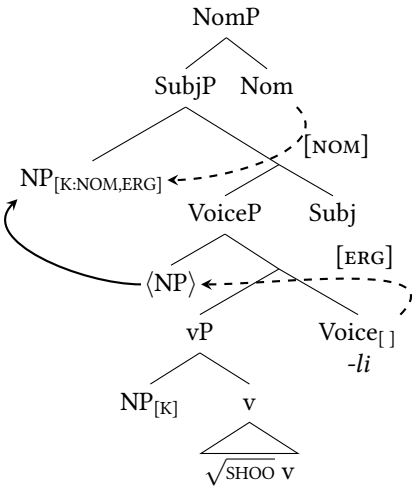
So what is the head responsible for assigning nominative case? The gold standard for a case-assignment-from-a-functional head model is to identify the case-assigning head as being an independently-motivated head, by showing that the presence of nominative case covaries with the presence of some other morphosyntactic property of the clause. Chomsky (1981) and subsequent authors identify the locus of nominative-assignment in English, and various other languages, as finite T/Infl, since the presence of nominative case covaries with the finiteness of the clause. In Choctaw, the presence of nominative case is not tied to finiteness (or the presence of tense or agreement) in a clause—rather, nominative case shows up in virtually all clauses, even those that are fairly structurally reduced. This means we unfortunately can't adopt the nominative-from-T analysis wholesale from English. For now, I label the [NOM]-assigning functional head 'Nom' as a placeholder—see §6.4.2 for a more detailed (though unsuccessful) investigation of the domain of [NOM]-assignment in Choctaw.

To illustrate how this works, the tree in (7b) schematizes the simple transitive sentence in (7a). The highest NP within VoiceP raises to the subject position (cf. §2.3.1), and Nom assigns it nominative case. It also receives ergative case from Voice, though this does not affect the morphology of this clause (since the ERG argument is 3rd-person).

(7) **Case-assignment relations in a simple transitive clause**

a. *Mary at alla shólitok.*
Mary-at alla shooli-tok
Mary-NOM child hug-PST
'Mary hugged the child.' (F_06-23-16_49)

b.



The distribution of nominative case ends up being more complex than what we see in simple transitive and intransitive clauses—chapter 5 illustrated that objects can receive nominative, as can the mysterious class of 'possessor-topics', which sit above the canonical subject position (these are discussed in §6.4). But even a clause with a very simple argument structure like (7) can serve to clarify a couple of crucial points about argument-marking and case in Choctaw. Firstly, as was first discussed in chapter 1: NPs can bear *multiple* case values. The subject of (7a) *Mary*, as schematized in (7b), has both an [ERG] case value, assigned by Voice (see chapter 4), *and* a [NOM] case value, assigned by one of the mechanisms outlined above. Secondly, NPs may also receive *no* case values. The object in (7) does not receive [ERG], [NOM] or [DAT].

The claim that an NP may have zero, one or multiple case features, without this having any effect on the viability of the syntactic derivation, supports a core tenet of the model employed here—that case-assignment relations and the case values that they confer on NPs are purely *morphological* creatures. Case, in this model, is not a syntactic thing, and does not serve a licensing role, or drive or constrain the derivation in any way. In this way, the conception of case here is a primarily *postsyntactic* one, more akin to the 'case-as-morphology' accounts of Marantz (1991/2000), Bobaljik (2008) and others than the 'case-as-syntactic-licensing' account of Chomsky (1981).

Next, we turn to how [K] features do and do not get converted into phonological exponents.

6.2.2 Realizing the [K] feature

After a [NOM] value has been distributed to certain nominals, and not to others, the structure then arrives at a later stage in the morphological component of the grammar, during which [K] features are, or are not, converted into K nodes, which can be targeted for Vocabulary Insertion. I propose that K are inserted via a *Dissociated Node Insertion* (DNI) rule, in the spirit of McFadden (2004) (on DNI, see Halle and Marantz 1993, Embick 2010, Choi and Harley 2019). The basic rule, with the conditioning environment(s) left unspecified, is given in (8). The values of [K] (which will be [ERG], [DAT] and [NOM]) are copied onto the K node as diacritic features. Note that I assume that [K] features percolate to the highest phrasal projection in the extended projection of a nominal, and the rule in (8) applies to the highest head there (see Norris 2014 on feature percolation within the nominal).

(8) **DNI rule converting [K] feature into K terminal**

$XP_{[K:\alpha]} \rightarrow$ XP / <conditioning environment(s)>

XP $K_{[\alpha]}$

K is then subject to various VI rules. The two rules that result in the spellout of the neutral nominative or oblique case-markers are given in (9). Additional VI rules are required to account for the contrastive or special case-markers, on which see §2.6.1, §6.1 and §6.11.

(9) **Vocabulary Insertion rules inserting neutral case-markers at K terminals**

a. $K_{[NOM]} \leftrightarrow$ *-at*

b. K $\leftrightarrow$ *-a̲*

The main purpose of the latter part of this chapter (§6.7-§6.9), focusing on the realization and non-realization of the [K] feature, is to determine when the DNI rule in (8) applies. It is possible to identify several factors which either mandate or block the application of the rule.

As an example of something that *mandates* the application of the rule, we can show that NPs whose extended projection is headed by a demonstrative determiner must be case-marked, as shown in (10). We can model this as mandatory application of the rule in (8) to the topmost layer of an NP *only if* the head of that layer is a demonstrative (Dem).

(10) **Demonstrative determiners induce case-marking**

Aayi̲paa-m-*(**a̲**) okla=kashoffi-tok.
table-DEM-*(**OBL**) PL=clean.ACT-PST
'They cleaned the table.' (D_10-19-18_46, judgment)

As an example of something that *blocks* the application of the rule in (8), we can show that clausemate

adjacent NPs may not have identical case-markers, as illustrated in (11). In §6.9, this restriction is formalized as a morphological *case OCP* constraint.

(11) Bill-a ofi-(*ya) im-aa-li-tok.
Bill-OBL dog-(*OBL) DAT-give-1SG.ERG-PST
'I gave Bill a dog.' (Broadwell 2006:73)

The factors that block or mandate application of the DNI rule in (8) are discussed in detail in §6.7-§6.9. The picture that emerges is one in which the conditioning factors for realization or non-realization of an NP's [K] feature are defined partly over structural representations, and partly over linear representations.

In the next section, I discuss the theoretical implications of the two-stage analysis of case-marking proposed in this chapter.

6.3 The theoretical stakes

The model of Choctaw nominal case-marking in this chapter draws a sharp distinction between the factors that determine the *distribution* of a case value (focusing here on [NOM]) to nominals in the clause, and those factors which determine the *realization* of those case features. The former stage is analyzed as taking place at an early stage in the morphological derivation, since it must be able to see the c-command relations between elements. The latter stage is analyzed to be later in the morphological derivation, since it is sensitive to a different set of properties. Within this analysis of Choctaw nominal case-marking, there are several points that may be of interest to theoreticians more generally. I highlight some of them in this section.

The first point, discussed in §6.3.1, relates to the possible analyses of NPs which are unmarked for case, cross-linguistically. Common approaches in previous work have been to analyze them as having a special case with a Ø exponent, or not being of the right syntactic category to have case features at all. The proposal here offers another option for their analysis: they have a case feature which, in other contexts, may have an exponent. But in some instances the morphology conspires to leave that case feature unexponed. §6.3.2 then discusses the implications of the analysis of oblique case—I propose that it is an 'elsewhere' case. The analysis differs from some previous characterizations of elsewhere or 'default' cases, and has implications for the relationship between case-assignment and licensing—specifically, it points to there being no such relationship. §6.3.3 then explores the idea that *constraints* may be able to restrict the application of morphological rules. Finally, §6.3.4 makes the point that, combining the analysis in this chapter with the chapters preceding it, arguments may have one, multiple or zero case values. This forces us to rethink the traditional role of case(/Case) in the syntactic derivation—I take the position that there is no case in the syntax.

6.3.1 Ways to analyze caseless NPs

Here, I briefly discuss how the absence of overt case-marking has been dealt with in previous analyses of other languages, and how the Choctaw data necessitates a different kind of analysis, which involves a bifurcation between case values and their morphological realization.

The first kind of analytical option for dealing with NPs without overt case-marking is to say that they have a separate case from those NPs *with* overt case-marking. An example is nominative/absolutive/unmarked case in Hindi: these NPs are unmarked, and stand in opposition to NPs marked with ergative or accusative case, as in (12).

(12) **Hindi: unmarked NPs are analyzed as bearing a separate case**

a. sītā rām-ko pīṭī hai
Sita.**NOM** Ram-ACC hit.PRES AUX
'Sita hits Ram.'

b. rām-ne chiḍiyā dekhī
Ram-ERG bird.**NOM** see.PERF
'Ram saw a sparrow.' (Hindi, Bhatt 2007:14)

This makes sense for a language like Hindi, where NOM arguments have a different syntactic and semantic behavior from their ergative and accusative colleagues. For instance, only NOM arguments can control verbal agreement; the appearance of NOM objects is regulated by the interpretation of that object (Hindi has a definiteness-conditioned system of *Differential Object Marking*); and the appearance of NOM subjects is regulated by the aspect of the clause (Hindi exhibits aspect-based split ergativity).

A related analytical option, which has also been applied to languages like Hindi, is to say that unmarked NPs are unmarked because they *lack* a case feature or value. To take one example of such an analysis, Baker (2015) builds a typologically-informed analysis in which this assumption is central. For him, unmarked NPs cross-linguistically are those which fail to meet a language's particular criteria for case-assignment. Note that this kind of model necessitates a departure from the assumption that arguments *require* case (i.e. a model in which case serves a *licensing* role, cf. Chomsky's 1981 Case Filter). A further related analytical option is to maintain the assumption that NPs generally require case, but to carve out a class of exceptional circumstances in which NPs do *not* require case, and are excluded from the computation of case entirely. This results in them, naturally, failing to receive a case feature or value and going morphologically unmarked. This idea underlies analyses of pseudo noun incorporation by Massam (2001), Levin (2015) and others (see the chapter appendix in §6.14.2).

What all three of these (related) analytical options have in common, however, is that a particular syntactic case feature or value, if present, will map to a particular morphological exponent (*modulo* syncretism and

declension classes). Lack of morphological marking uniformly corresponds to either a separate Ø-marked case (or cases, cf. Legate 2008), or to the absence of a case feature/value entirely.

What I propose for Choctaw, however, is that the relationship between case values and their overt exponents is more indirect: case features with particular values ([K:NOM] and [K]) may map to particular morphological exponents, *but* they may also fail to do so for morphology-internal reasons. This gives us a new way of dealing with the absence of morphological case-marking: rather than starting with the assumption that unmarked NPs lack the case features we usually associate with morphological exponents, we have, as an analytical option, an alternative in which unmarked NPs *do* have those features, and we can then start looking instead for the morphological conditions that cause the features to go unexpressed. In §6.6 I provide empirical evidence for the presence of a morphologically-unrealized [K:NOM] feature on certain arguments.

6.3.2 An overt 'elsewhere' case

In the outline in §6.2, I proposed that oblique case should be analyzed as an 'elsewhere' case, defined not by the presence of a particular case value (e.g. '[OBL]'), but by the absence of a case value. Oblique case-markers are exponents of a 'bare' case feature [K], and Vocabulary Insertion the rules that insert an oblique marker (e.g. (9b)) only apply when no more-specific rules can apply instead, such as the rule inserting a nominative marker (e.g. (9a)). Empirical evidence for the elsewhere character of oblique case is given in §6.5—here, I consider the theoretical implications of the claim.

The first thing to note is that 'default' case is a necessary part of a system in which all NPs require case (i.e. a system that features something like a *Case Filter* at some point in the syntactic or morphological derivation). Unmarked NPs used as calls/insults (*"asshole!"*, *"waiter!"*), fragment answers, left-dislocated topics and non-argument-related topics would still have a 'case' in this kind of theoretical context, but in the absence of any sentence-level structure to assign it, we would have to appeal to 'default' case (see Schütze 2001b, McFadden 2004 for discussion).

Choctaw oblique case, as I have analyzed it, does have some conceptual similarity to this notion of default case, in that it is found on fragment answers and non-argument-related topics. I also show in §6.5 that, in keeping with the spirit of traditional default case, it occurs in such a diverse range of syntactic environments that it is implausible that there is some case-assigning functional structure shared by all of them. But where Choctaw oblique case differs from traditional default case is that it has an *optional* morphological exponent. I analyzed overt oblique case as the exponent of a [K] feature that is not valued with [NOM], but this same feature may also go un-exponed.

In this way, NPs with optionally-realized oblique case differ from those Choctaw nominal expressions

which are *truly* caseless, and which can never surface with any case-marking whatsoever. Examples include the nominal head of modified NPs, such as (13), and nominals internal to compounds, such as (14).

(13) **Head noun in modified NP cannot be case-marked**

a. John illah-oosh [ofi-**(*ya)** lósa] písa-tok.
John only-NOM.SP dog-(*OBL) black.NMZ see:NG-PST
'Only John saw the black dog.' (H_06-01-17_133)

b. Lashpa-tok-o [tea-**(*yat/*ya)** kapassa-yat] sa-kapassali-h.
hot-because-DS tea-(*NOM/*OBL) cold-NOM 1SG.ABS-cold.ACT-TNS
'It's hot, so the cold tea is cooling me down.' (A_10-09-18_91)

(14) **Nouns inside compounds cannot be case-marked**

a. [Hina-**(*ya)** chanálli] akakoshi-t alwasha-sh hikíya-h.
road-(*OBL) roll egg-NOM fry.NACT-PTCP stand:NG-TNS
'The egg is frying in the car ('road roller').' (D_10-13-18_7)

b. [Chahta-***(ya)** annópa] anopoli-l-ana-h chim-ahwa-h.
Choctaw-(*OBL) language speak.ACT-1SG.ERG-MOD-TNS 2SG.DAT-seem-TNS
'You think I can speak Choctaw.' (L_06-20-17_7)

In this way, the Choctaw data supports a distinction between NPs with 'default case' and NPs that are truly caseless. NPs with default case are still eligible to receive case values, and are equipped with 'case-receptive' technology, in the form of a value-able [K] feature. It just so happens that they fail to receive any exponable values for their [K] feature (e.g. [NOM]), but they were always capable of receiving them. The [K] feature, by itself, may still be exponed, giving rise to the overt elsewhere case marker (in Choctaw, an oblique marker). *Truly* caseless nominals, on the other hand, are those that entirely lack the case-receptive technology (the [K] feature). The case-ineligible nominals in (13-14) are good examples of this—these can never bear a case-marker.

6.3.3 The role of constraints in the morphological derivation

In §6.9 I show that Choctaw case-marking is constrained by a *case OCP* constraint, blocking (most) sequences of clausemate nouns which carry the same case-marker, incuding sequences of nominative-marked NPs and sequences oblique-marked NPs. As is attested for case OCP effects documented in other languages (e.g. Harada 1973, Hiraiwa 2010 and many others on Japanese; Mohanan 1994 on Hindi), I show that Choctaw's case OCP constraint is sensitive to linearly-adjacent clausemate syntactic constituents. The existence of a constraint like this bears on the debate surrounding the role of constraints in morphology.

Constraints have not traditionally played a large role within Distributed Morphology, the framework adopted in this dissertation, and I refer the reader to Rolle 2020 for an overview of the historical role of

contraints in DM. Nonetheless, a number of recent works within a DM framework have productively integrated constraints with DM's traditional ordered rules (e.g. Trommer 2001, Arregi and Nevins 2012, Rolle 2020, Dawson 2017, Foley 2017). Arregi and Nevins, for instance, propose that constraints on morphological outputs can trigger particular 'repair' rules to apply in order that the morphological component does not generate such outputs, and Rolle (2020) proposes that the serial morphological architecture should be abandoned entirely in favor a fully constraint-based, parallel morphological component.

For the Choctaw case OCP, I propose in §6.9 that the relevant constraint be integrated into the grammatical architecture in a way that represents the most minimal possible departure from a fully serial morphological derivation. Nonetheless, the existence of something that looks a lot like a constraint in the morphological module is theoretically significant.

6.3.4 Implications for a general analysis of case

The analysis presented in this section holds that nominative arguments have a [NOM] case value. We also know from the previous two chapters that the Choctaw inventory of case values must include [ERG] and [DAT] too, which are reflected in the clitic system of the language. None of these values can be collapsed with, or derived from, any other values. And, crucially, certain arguments can be argued to have *multiple* case values. The NOM subject doubled by an ERG clitic in (15a) would have both [NOM] and [ERG], and the NOM subject doubled by a DAT clitic in (15b) would have [NOM] and [DAT].

(15) **NPs with multiple case values**

a. *Chishnakósh tówa ish kachitok kiyo, ibá hoyoh.*
chishn-ak-oosh tóowa **ish**-kachi-tok kiyo, ibaa-hoyo-h
you-FOC-NOM.SP ball 2SG.ERG-lose-PST AFF COM-seek-TNS
'You're the one who lost the ball, look for it with him.' (L_08-08-17_120)

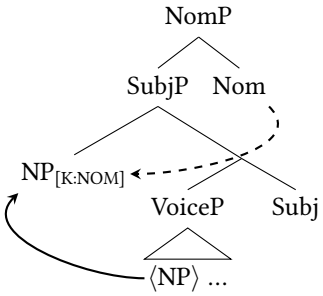
b. *Chishnakósh ofit chi mokófatoko?*
chishn-ak-oosh ofi-t **chi**-mokoofa-tok-o
you-FOC-NOM.SP dog-NOM 2SG.DAT-release.NACT-PST-Q
'Did you have the dog get away from you?' (A_10-18-18_43)

Taking the findings of this chapter and previous two chapters together, we are forced to posit that a single NP must be capable of simultaneously hosting multiple case values. This finding and its theoretical implications is discussed in detail in the concluding chapter of the dissertation (chapter 7).

6.4 Nominative case and how to get it

In §6.2.1, I outlined the basic distribution of nominative case in Choctaw—it goes on subjects—and sketched an analysis. The proposal is that nominative is assigned from a functional head Nom to the NP in Spec-SubjP, in the earliest stage in the morphological derivation. This is schematized again in (16).[2]

(16) **Nom assigns [NOM] to the subject**



However, nominative case-marking also shows up in two other syntactic contexts in Choctaw. The first instance of 'non-canonical' nominative case is found on some objects of dative-subject transitives, as in (17). Following the analysis in chapter 5, we can say that they have the syntactic structure in (18). Note that I have annotated each NP in the tree with its case feature.[3]

(17) **Nominative objects**

a. *John akósh lokka lobo at i chitoh.*
John-ak-oosh lokka lobo-**at** i-chito-h
John-FOC-NOM.SP shirt round-**NOM** DAT-big-TNS
'The shirt is big on JOHN' (A_06-08-17_59)

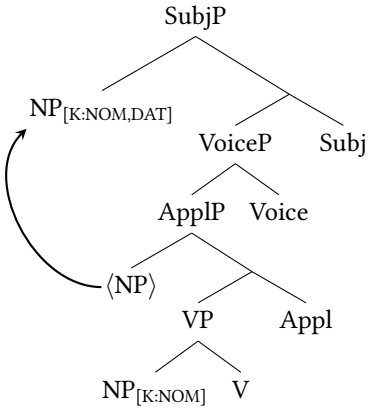
b. *Sa tíkchi yat ik hopáko kásh car hat i hikiyatok.*
sa-tiikchi-yat ik-hopáak-o-k-aash carh-**at** i-hikíya-tok
1SG.ABS-wife-NOM IRR-long.ago:LG-NEG-COMP-PREV car-**NOM** DAT-stand:NG-PST
'My wife had a car recently.' (A_06-09-17_37)

---

2. The analysis could also be reconceptualized in a *dependent case* framework (Marantz 1991/2000, Baker 2015). In §6.12 I discuss the ways in which a dependent case model could, and in places could not, be made to fit the Choctaw data.

3. Note that in the examples in (17) and (19), care has been taken to avoid two adjacent arguments being marked with the same case-marker—in (17a) and (19b) one of the arguments carries the special nominative marker and the other the default marker, and in (17b) and (19a) the two nominative arguments are separated by an intervening adverb. This is done in order to avoid violations of Choctaw's Case OCP restriction, on which see §6.9.

(18) **Structure for (17), with NPs' case values shown**



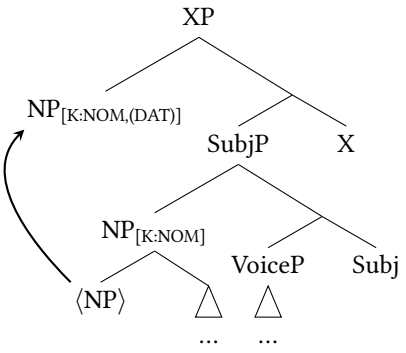
The second instance of non-canonical nominative case is on 'possessor-topics' in certain external possession constructions, illustrated by (19) (also discussed in §5.8). In Tyler (to appear) I drew up an analysis, which builds on Broadwell (2006), that these have a structure like (20)—note that the tree here covers a higher region of the clause than that in (18). Note also that the possessor, moved to Spec-XP, may or may not have a [DAT] feature, depending on whether it patterns as an alienable possessor, as in (19a) or inalienable possessor, as in (19b) (see §2.6.1).

(19) **Nominative possessor-topics**

a. *John at piláshásh im ofi yat illih.*
John-at piláashaash im-ófi-**yat** illi-h
John-NOM yesterday DAT-dog-**NOM** die-TNS
'John's dog died yesterday.'

b. *Kíyo, chishnakósh chi noshkobo at chitoh.*
kíiyo, chishn-ak-oosh chi-noshkobo-at chito-h
No you-FOC-NOM.SP 2SG.ABS-head-NOM big-TNS
'No, It's you who has a big head.' (A_08-07-17_85)

(20) **Structure for (19), with NPs' case values shown**



Both of these instance of non-canonical nominative case are found in various other languages; the con-

figuration in (17-18), where nominative case appears on an object in the presence of a dative or oblique subject, is particularly common. However, I would like to highlight one intriguing cross-linguistic parallel, with Korean. Korean appears to have both kinds of non-canonical nominative which I identify here in Choctaw. Nominative is found on the objects of some dative-subject constructions, as illustrated in (21a), *and* nominative is found on so-called 'major subjects', which sit above canonical subjects and are often interpreted as their possessor, as in (21b).

(21) **Korean: non-canonical nominatives that match Choctaw's**

a. John-hanthey Mary-**ka** mwusewe.
John-DAT Mary-NOM be.afraid
'John is afraid of Mary.' (Levin 2017:455)

b. Minho-**ka** apeci-ka pwuca-i-si-ta.
Minho-NOM father-NOM rich-be-HON-DECL
'As for Minho, his father is rich.' (Yoon 2018:416)

Even more strikingly, Korean *also* allows nominative to be realized on certain subjects which already carry a dative case-marker, as in (22). In this way, Korean is able to realize on a single NP two case features, whose expression in Choctaw is spread across the nominal case and verbal clitic system.[4]

(22) **Korean: nominative-on-dative case-stacking**

a. Cheli-**hanthey-ka** ton-i isse.
Cheli-DAT-NOM money-NOM has
'Cheli has money.'

b. Etten-salam-**hanthey-ka** Yenghi-ka coha.
some-person-DAT-NOM Yenghi-NOM likes
'Some person likes Yenghi.' (Levin 2017:448, 475)

The phenomena of multiple nominative constructions (known as *multiple subject constructions* in older work) and case-stacking in Korean have both been studied in some detail. For multiple nominative/multiple subject constructions see Yoon (1986), Youn (1991), among others; for case-stacking see Gerdts and Youn (1988), Yoon (1996, 2004), Levin (2019), among others. I raise the parallel here partly in order to contextualize non-canonical nominatives in Choctaw, and partly because the analysis I develop for the distribution of nominative in Choctaw is based on similar proposals that have been previously made for Korean and some other languages with multiple nominative constructions. See also the discussion in the conclusion to this thesis (chapter 7).

In the rest of this section, I first build an account of these two exceptional instances of nominative-assignment by refining the case-assignment-via-a-functional head model (§6.4.1). §6.4.2 then takes up the

4. There are various conditions on overt case-stacking in Korean, including that case markers must generally have some intervening morphology, such as an honorific or a focus-marker. See Yoon (1996), Schütze (2001a), Levin (2017), among many others.

issue of the functional head to which nominative-assignment can be anchored—that is, what is 'Nom'?

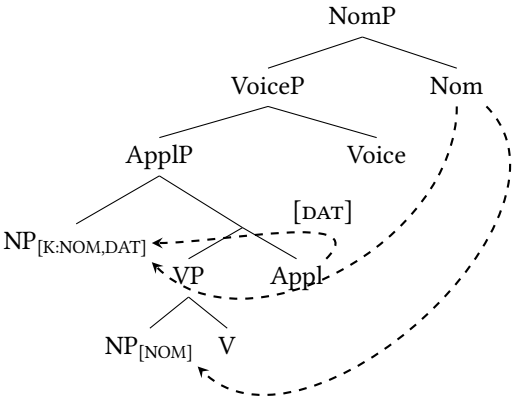
Note that throughout this section, which is concerned with the distribution of the (abstract) [NOM] case value, I rely mainly on evidence from overt morphological marking. That is to say: when an argument has a NOM case-marker, I take that as evidence that this argument has a [NOM] case value. When an argument has an OBL case-marker, I take that as evidence that it does *not* have a [NOM] value. And if an argument is unmarked for case, I do not take that as informative with respect to the presence/absence of [NOM]. This is because, as outlined in §6.2.2, NPs in Choctaw may have case features and values but leave them unexponed.

6.4.1 Non-canonical nominatives

In this section I explore how the case-assignment-from-a-functional head model might be modified so as to account for the non-canonical nominatives just described—nominative objects in dative-subject transitives, and nominative possessor-topics. The first thing to note is that in clauses with non-canonical nominatives, there is always a canonical nominative too—that is, *two* arguments get nominative case. This gives us two options: either each nominative argument is assigned case by its own [NOM]-assigning head, *or* the same [NOM]-assigning head assigns case twice. I assume the latter, following much work on Multiple Agree (which, in most models, is assumed to be a precondition for multiple case-assignment) by Hiraiwa (2001), Ussery (2011), Béjar and Rezac (2009), Nevins (2011), and others.

Let's consider first the dative-subject transitives in (17). If the object and the subject both have a [NOM] value, then Nom must have assigned [NOM] to both. This is schematized in (23). I also represent Appl assigning [DAT] to the subject, as described in chapters 4 and 5 (I do not show movement of the higher NP to the subject position).

(23) **Case-assignment relations in a dative-subject transitive**



What makes Nom, in this configuration, enter into two case-assignment relations? One could imagine various implementations (e.g. Ura 1996, 1999, Hiraiwa 2001 on multiple-nominative constructions in Korean and Japanese), but for now I leave it as a stipulation that when Nom assigns nominative to an argument which already has a DAT case value, it *may* assign nominative again, to a lower argument.

Note the use of the modal *may* in the previous sentence—in most contexts, this second round of nominative-assignment is in fact optional. This is illustrated by the examples in (24), where the object carries overt *oblique* case-marking.[5] These examples come from speakers from a range of ages, and I believe there is stable variation on this point, with nominative vs. oblique case-marking likely correlating with little-studied semantic, pragmatic and lexical factors.

(24) **Dative-subject transitives may take oblique objects**

a. *Allat chim iskali ya i kaníyatok.*
alla-t chim-iskali-**ya** i-kaniiya-tok
child-NOM 2SG.DAT-money-**OBL** DAT-lose-PST
'The kid lost your money' (A_06-09-17_52)

b. *Alla mat holisso ako i kaníyatok.*
allaa-m-at holisso-ak-**o** i-kaniiya-tok
child-DEM-NOM book-FOC-**OBL.SP** DAT-leave-PST
'That kid lost the BOOK.' (F_06-15-17_77)

c. *John at bálokka ma i katalih.*
John-at baalokkaa-m-**a** i-katali-h
John-NOM pants-DEM-**OBL** DAT-tight-TNS
'Those pants are too tight for John.' (E_06-16-17_68)

d. *Ofi ma i hikiyah.*
ofii-m-**a** i-hikíya-h
dog-DEM-**OBL** DAT-stand:NG-TNS
'She has that dog.' (A_08-08-17_29)

e. *Bill at chokka ma i tobatok.*
Bill-at chokkaa-m-**a** i-toba-tok
Bill-NOM house-DEM-**OBL** DAT-be.made-PST
'Bill got that house built.' (C_02-08-18_148)

f. *Am oofi ako am ittolatok.*
am-oofi-ak-**o** am-ittola-tok
1SG.DAT-dog-FOC-**OBL.SP** 1SG.DAT-fall-PST
'I dropped my DOG.' (E_06-16-17_74)

In addition, the 'multiple [NOM] assignment' analysis provides a natural account of the behavior of dative-subject transitives when causativized. Upon causativization (on which see chapter 3), both of the pre-existing arguments of a dative-subject transitive lose their nominative status, and can only be marked

5. Munro (1999:275ff.) notes that the object of dative-subject transitives in Chickasaw also varies between nominative and 'accusative' (i.e. oblique).

with oblique case. Only the newly-added causer argument is nominative. Some examples are given in (25).

(25) **Causativized dative-subject transitive**

a. Nominative impossible on dative causee

Luke(*-**at**)	im-ittolaa-chi-li-tok.
Luke-(*-**NOM**)	DAT-fall-CAUS-1SG.ERG-PST

'I made Luke drop it.' (A_01-29-18b, judgment)

b. Nominative impossible on theme[6]

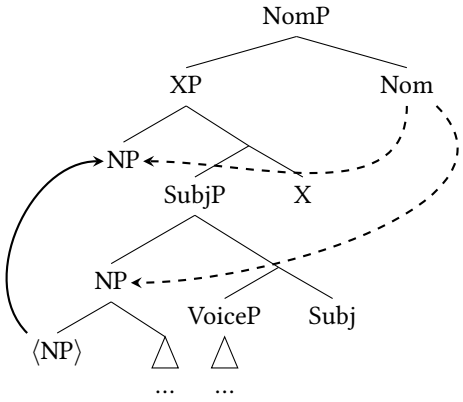
Sa-malhálli-cha	a-shtíshko(*-**at**)	am-ittolaa-chi-tok.
1SG.ABS-scare.ACT:LG-and.SS	1SG.DAT-glass(*-**NOM**)	1SG.DAT-fall-CAUS-PST

'She scared me and made me drop my glass.' (A_01-29-18b, judgment)

This happens because nominative is first assigned to the highest argument in the clause (the causer), which is *not* dative. Because the causer subject is not dative, there can be no second round of nominative assignment to a lower argument.

Turning to the second instance of non-canonical nominative, this time on possessor-topics (e.g. (19)), some different theoretical options for distributing nominative present themselves. One possibility is that Nom assigns nominative both to the subject and to the possessor-topic, after it has exited the subject. This option is schematized in (26)—note that I locate Nom above both the subject position (Spec-SubjP) and the landing site of the raised possessor, but one could locate Nom lower in the clause if upwards case-assignment is not ruled out.

(26) **Case-assignment and movement in a possessor-topic construction**



As before, what exactly allows Nom to engage in a second case-assignment relation would remain a mystery. And the generalization provided above for when Nom is allowed to assign case a second time—when its closest argument already has a [DAT] case value—does not work for possessor-topics. Some possessor-topics

6. Speakers expressed reservations about the naturalness of this sentence, which likely sounds more clunky than the English translation provided. Nonetheless, they agreed that, to the extent that the sentence is utterable, the theme argument categorically cannot carry nominative case.

have [DAT] values, as in (19a), but others do not, as in (19b).

An alternative option would be for Nom to enter into just one case-assignment relation, with the subject. The [NOM] case value would then be 'shared' or 'spread' by some mechanism from the subject NP to its sub-extracted internal possessor. The notion that case features can be shared or spread from an NP to a sub-extracted possessor is not totally novel—the examples in (27) illustrate so-called 'case-matching' or 'case-doubling' cross-linguistically.

(27) **Case-matching between possessor and possessee in discontinuous NPs cross-linguistically**

a. Tiwa

Monbor [miyâw-**re**] payar-o [Sonali-ne-**re**] -lo omle-do-m.
Monor cat-COM outside-LOC Sonali-GEN-COM -FOC play-IPFV-PST
'Monbor played outside with Sonali's cat.' (Clem and Dawson 2018:(34))

b. Korean

Chelswu-ka [Yenghi-**lul**] salmyesi [son-**ul**] cap-ess-ta.
Chelswu-NOM Yenghi-ACC gently hand-ACC hold-PSTDECL
'Chelswu held Yenghi's hand gently.' (Yoon 1997:244)

In Clem and Dawson's analysis of case-matching in Tiwa, they propose that features can be shared between noun-phrase-internal determiners. There are other proposals that involve feature-sharing or feature-spreading within a nominal, though they do not straightforwardly allow for the possibility that a feature may be shared with an internal possessor (e.g. Babby 1987, Norris 2014, 2018). To my mind, neither the multiple-case-assignment analysis nor the feature-sharing analysis has a clear empirical advantage over the other.

To sum up, in this section I have outlined how the simple nominative-assignment-from-a-functional-head model could be extended to account for the two instances of non-canonical nominative that we see in Choctaw—nominative objects in dative-subject transitives, and nominative possessor-topics. The model is not very explanatory, but it does at least explain the data in a way that is accountable to contemporary morphosyntactic theory, I believe. In an appendix to this chapter, §6.12, I argue that Baker's (2015) account of nominal case-marking in Choctaw, which is couched in a *dependent case* framework, has too many problems to be salvaged.

It is worth reiterating that in the model assumed here, case-assignment is separated from Agree/agreement. Case-assignment is a one-way relationship that holds between a functional head and an NP, by which the functional head is able to transfer a case value to that NP (see §1.3.3). It does not, however, require the functional head to form an Agree relation with the NP, although both kinds of relation are established in the morphological derivation.

In the next section, I tackle an issue that has been left deliberately unresolved thus far: what is the true

identity of 'Nom'?[7]

6.4.2 The domain of nominative assignment

What is 'Nom'? In this section, I do not settle on a particular functional head—though I show some functional heads that it *cannot* be—and I give a sense of where in the clause it might be. The basic logic involved in investigating this question is checking whether nominative may be assigned within various clause types, which can be shown to be in some way structurally reduced or deficient. If the availability of nominative case is found to correlate with the presence vs. absence of certain functional structure, then there is a case to be made that nominative is associated with that piece of functional structure. In English, for instance, nominative case cannot be assigned to the subject of a non-finite clause, and thus finite T has long been assumed to be the locus of nominative-assignment (Chomsky 1981). In this section, I take the hierarchy of functional heads identified for Choctaw's clausal spine in §2.5.1, and I show that that nominative-assignment cannot be associated with T, nor with the functional structure that hosts an overt subject (Subj), nor with the functional structure that hosts suffixal 1SG agreement (Author). We are then left with the options that either (1) that the nominative-assignment domain must be defined in terms of domains other than those considered here, or (2) the functional-head-based approach here is the wrong way to look at nominative-assignment.

In Choctaw, clauses may be structurally reduced to various degrees (cf. §2.3.3). For instance, all embedded clauses, including all types of complement clause and relative clause, are structurally reduced such that they cannot be marked with evidentiality morphology (§2.5.1, Broadwell 2006:196). Other kinds of clause seem to be more radically truncated. For instance, clauses suffixed with the switch-reference markers *-cha*/*-na* 'and', as in (28), and participial clauses marked with *-t*, as in (29), are both unable to have independent tense-marking (cf. §2.5.1).

(28) ***-cha*/*-na* clauses reject tense-marking**

a. [Hattak alhiiha-t nipi hopóoni-cha / *hopooni-**tok**-cha] apa-tok.[8]
man group-NOM meat cook:LG-and.SS / *cook-**PST**-and.SS eat-PST
'The men cooked the meat and ate it.'

b. [John-at talóowa-na / *taloowa-**tok**-na] Bill-at hilh-aachi-h.
John-NOM sing:LG-and.DS / *sing-**PST**-and.DS Bill-NOM dance-FUT-TNS
'John sang (*will sing) and Bill danced.' (Broadwell 2006:285)

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7. In a dependent case model (cf. §6.12), this is equivalent to asking what functional head defines and closes off the domain in which nominative case is assigned.

8. Another plausible bracketing for (28a) is that *hattak alhiihat* 'the men' is the subject of the entire coordination, rather than just the left conjunct. This does not affect the point being made here about the unavailability of tense-marking. However, for completeness, the example in (i) shows that *-cha* clauses *can* have nominative-marked subjects of their own, not shared with the right conjunct.

(29) **Participial *-t* clause rejects tense-marking**

Hooyo-(*tok)-t nowa-tok.
seek-(*PST)-PTCP walk-PST
'She went looking for it.' (L_08-14-17, judgment)

One way of interpreting this data is that these clause types lack a T head (and thus a TP layer). Yet in both *-cha*/*-na* clauses and in participial *-t* clauses, arguments may be marked as nominative. (30a) shows a *-cha*-marked clause with a nominative object, (30b) shows the same for a *-na*-marked clause, and (30c) for a *-t*-marked participial clause.

(30) **Nominative objects in structurally-reduced clauses**

a. *Tówa yat i̲ kaníyacha i̲la cho̲patok.*
[tóowa-**yat** i̲-kaníiya-cha] i̲la cho̲pa-tok
ball-NOM DAT-lose:LG-and.SS other buy-PST
'He lost the ball and bought another one.' (L_08-08-17_84)

b. *Katos at im ittólana im iyyi o̲ hikíyatok.*
[kátos-**at** im-ittóola-na] im-iyyi o̲-hikiiya-tok[9]
cat-NOM DAT-fall:LG-and.DS DAT-foot SUP-stand-PST
'She dropped the cat and it landed on its feet.' (A_08-17-17c_7)

c. *Iskali yat chi̲ lawat na̲n lawat ish cho̲patok.*
[iskali-**yat** chi̲-lawa-t] ná̲n lawa-t ish-cho̲pa-tok
money-**NOM** 2SG.DAT-many-PTCP thing many-PTCP 2SG.ERG-buy-PST
'You had a lot of money and bought a lot of stuff.' (A_02-08-18_132)

Therefore, if a clause's ability to assign nominative survives in the absence of a TP layer, the locus of nominative-assignment cannot be T.

An alternative possibility is that nominative is associated with the functional layer that hosts the 1SG.ERG agreement suffix *-li*. In §2.5.1 I termed this head 'Author'. Participial *-t* clauses provide a nice way of testing this idea, since they reject *-li*, as shown in (31) (see also Broadwell and Martin 1993:7). [10]

(31) *Hooyo-**li**-t nowaa-li-tok.
seek-1SG.ERG-PTCP walk-1SG.ERG-PST
('I went looking for it.')

(i) **Participial *-t* clause rejects tense-marking**

John at nokówacha tasi̲bo mat ná balíli am oppanitok.
[John-at nokóowa-cha] tasi̲bo-m-at naa balíili am-oppani-tok
John-NOM angry:LG-and.SS crazy.NMZ-DEM-NOM car 1SG.DAT-break.NACT-PT
'John$_i$ got mad and the crazy fool$_i$ crashed my car.' (L_08-14-17_57)

Incidentally, the fact that clauses joined by the same-subject marker *-cha* can have independent subjects constitutes evidence against analyses of same-subject switch-reference marking which holds that it is coordination of two VPs (Keine 2013).

9. I do not know why *iyyi* 'foot/leg' takes DAT (alienable) possessor agreement in this sentence rather than the expected ABS (inalienable) possessor agreement.

10. The 1SG.ERG *-li* is not be confused with the transitive/causative marker *-li*, discussed in chapter 3.

Yet the example in (30c) shows that arguments *can* be assigned nominative within a *-t* clause. Therefore Author cannot be associated with nominative-assignment.

A further alternative option is that nominative case is associated with the layer of functional structure that hosts the subject of the clause (Subj, cf. §2.3.1), although here the evidence is hard to parse. On the one hand, most *-t* clauses are barred from having independent subjects—the subject must generally be coreferential with the subject of the matrix clause. The sentence in (32a) shows that a matrix object cannot (in general) control the subject of an adjunct *-t* clause, and the ungrammatical sentences in (32b-c) show that an adjunct *-t* clause cannot introduce its own subject, with or without nominative case.[11]

(32) **Most participial *-t* clauses cannot have independent subjects**

a. Iti ittola-t hokli-li-tok.
stick fall-PTCP catch.ACT-1SG.ERG-PST
'I caught the stick as I was falling.'
(#'I caught the stick as it was falling.')

b. *Oka(-at) walhalli-t apota abaa takaachi-li-tok.
water(-NOM) boil.INTR-PTCP plate up pick.up.ACT-1SG.ERG-PST
('I picked up the plate as the water was boiling.')

c. *A-ki(-t) nokoowa-t chokka aa-balii-t kaniiya-li-tok.
1SG.DAT-father(-NOM) angry.NACT-PTCP house LOC-run-PTCP leave-1SG.ERG-PST
('With my father angry, I left the house')

Therefore, if independent subject reference is associated with some clausal functional structure (as in the analysis of McFadden 2014, for instance), this functional structure is not responsible for nominative case-assignment.

On the other hand, there is at least one class of *-t* clauses that *do* permit independent subjects—those formed from intransitive quantifier verbs (on which see chapter 4), as in (33). Yet as these examples show, these subjects cannot be marked with nominative case (see also Tyler and Yuan 2019).

(33) **Participial *-t* clauses formed from intransitive quantifier verbs can take caseless independent subjects**

a. Alla-**(*yat)** mo̲ma-t pis-t foloota-li-tok.
child-(*NOM) all:NG-PTCP see-PTCP visit-1SG.ERG-PST
'I visited all the kids.' (I_01-31-18_88)

b. Ofi-**(*yat)** toklo-t ii-lhiyohli-tok
dog-(*NOM) two-PTCP 1PL.ERG-chase-PST
'We chased the two dogs.' (C_02-02-18_115)

So here, while these clauses *do* allow independent subjects (although they must be coreferential with the

11. Adjunct *-t* clauses must have a syntactically-projected subject in *some* sense, since case-marking on the objects of *-t* clauses proceeds as though there was a syntactic subject present: specifically, *-t* clauses formed from dative-subject transitives still have optionally-nominative objects, as in (30c). I therefore assume that they obligatorily have controlled PRO as their subject.

matrix object), they cannot bear nominative case. This is further evidence that subject-hosting functional structure is *not* responsible for nominative-assignment.[12]

In sum, I have shown that the functional head that assigns nominative cannot be the functional structure that hosts tense, agreement, or a subject. What does this mean for our quest to associate nominative with some part of Choctaw clause structure? One option is that we have just failed to consider the right functional head or syntactic domain, and that further investigation in this vein will uncover the true locus of nominative-assignment. §2.5 laid out a range of functional heads that make up the Choctaw clausal spine that I have been unable to consider here. Another option is that nominative really is assigned by a dedicated functional head 'Nom', which has no other function. A third option is that attempting to locate the locus of nominative-assignment in this way is doomed to failure because the approach is wrongheaded, and the theory assumed here simply does not give us the tools to describe this phenomenon. I leave the issue here.

In the next section, we move on from nominative arguments to discuss oblique arguments. I provide empirical support for the claim made in §6.2.1 that there is no 'oblique' case feature or value. Rather, the oblique case-marker is a default or elsewhere case-marker.

6.5 Oblique case as an 'elsewhere' case

In this section, I show that oblique case has has a 'default' or 'elsewhere' character. This supports the analysis presented in §6.2, that there is no 'oblique case feature'; rather, the oblique case marker is the realization of the *absence* of a nominative case value. In §6.2.2, I proposed that the nominative/oblique distinction should be encoded in the morphology with the Vocabulary Insertion rules in (34). When a K head lacks a [NOM] value—that is, when the rule in (34a) *cannot* apply—the rule in (34b) applies.[13]

(34) **Vocabulary Insertion rules inserting neutral case-markers at K**

a. $K_{[NOM]} \leftrightarrow$ *-at*

b. $K \leftrightarrow$ *-a*

The argument that oblique marking is an exponent of the absence, rather than the presence, of a formal feature or feature value, comes from the observation that there is a heterogeneous set of environments in which oblique case shows up, and there is no plausible functional structure common to all of them which we could say is the locus of oblique case.[14] Let's first look at the environments in which oblique case is possible.

12. Another potential candidate for a constituent that contains a subject, but which does not equip that subject with nominative case, is the quantified NP formed with the complementizer *-k*, on which see §2.7.2. This would only hold if the 'relative clause' analysis of these constituents is the correct one.

13. As was noted in §6.2.2, these rules will only suffice for the neutral case-markers—different pairs of rules will be required for the contrastive or special case-markers.

14. It is true that in §6.4.2 I was also unable to identify any one functional head as the assigner of nominative case within the clause.

To start us off, oblique may appear on direct objects (35a), indirect objects (35b), non-argumental topics (a.k.a. 'scene-setting' topics, Lambrecht 1994) (35c), possessors (35d) and left conjuncts within coordinated subjects (35e).[15]

(35) **Some varied habitats of oblique case**

a. Direct object

Bota ma hót álacha nonáchih!
botaa-m-**a** hoo-t áala-cha nonaa-chi-h
flour-DEM-**OBL** find-PTCP come:LG-and.SS cook-CAUS-TNS
'Go get that flour and cook!' (B_06-20-17_42)

b. Indirect object

Ofi ma foni imálách<u>i</u>h.
ofii-m-**a** foni im-aa-l-aach<u>i</u>-h
dog-DEM-**OBL** bone DAT-give-1SG.ERG-FUT-TNS
'I will give that dog a bone.' (C_02-02-18_152)

c. Adjunct topic

Bók ma nanit lawah.
book-m-**a** nani-t lawa-h
river-DEM-**OBL** fish-NOM many-TNS
'There are a lot of fish in the river.' (B_06-20-17_37)

d. NP-internal possessor

Hattak ma <u>i</u> katos at lakshah.
hattak-m-**a** <u>i</u>-kátos-at laksha-h
man-DEM-**OBL** DAT-cat-NOM sweaty-TNS
'That man's cat is sweaty.' (N_06-07-17_27)

e. Left conjunct within subject

Hattak ma hicha oshí yat ittitóma <u>a</u>ttah.
hattak-m-**a** hicha oshii-yat itt-itooma <u>á</u>tta-h
man-DEM-**OBL** and child-NOM RECIP-close be.SG:NG-TNS
'That man and his son live close to each other.' (I_08-09-17_80)

We can supplement this list with fragment answers, which can also *only* carry oblique case. This is true whether the corresponding NP in the question carries oblique case, as in (36a), or whether it carries nominative, as in (36b) (cf. Broadwell 2006:69).

But nominative case could still be associated with a syntactic category—the clause, or extended projection of the verb phrase—even if it is not trivial to identify the exact functional head it comes from. By contrast, there is no syntactic category of any kind that unifies the environments in which we find oblique case, as I show in this section.

An alternative interpretation of the heterogeneity of environments in which oblique case shows up, along the lines of Sigurðsson (2003), is that oblique case-marking is a syncretic form realizing a range of underlying case values. I do not pursue this idea here.

15. Coordinations where the conjuncts are in different cases are known as *unbalanced coordinations* (Johannessen 1998).

(36) **NPs used as fragment answers can only carry oblique case**

a. Q: *Tan̲apo mat naki n̲ata ho̲ hoklih?*
tan̲apoo-m-at naki nátah-o̲ hokli-h
gun-DEM-NOM bullet what-OBL.SP catch.ACT-TNS
'What kind of bullet does this gun use?'
A: Naki-p-a̲/*-at.
bullet-this-OBL/*-NOM
'This bullet.' (C_02-08-18_240, judgment)

b. Q: Káta-sh apa-tok?
who-NOM.SP eat-PST
'Who ate it?'
A: Hattak-m-a̲/*-at.
man-DEM-OBL/*-NOM
'That man.' (D_10-19-18, judgment)

That oblique case shows up in such a heterogeneous set of environments implies that it is *not* assigned by a single piece of functional structure, since it is hard to imagine a syntactic head which would show up in a sufficiently local relation to the oblique argument in all of these environments. What's more, the environments in which it *does* show up support its characterization as something like default case—non-argument topics and fragment answers are the canonical environments for default case (Marantz 1991/2000, Schütze 2001b). Taking a wider view, the finding that oblique case is default-like, rather than associated with some piece of syntactic structure, should be taken as evidence that the presence morphological case-marking does not necessarily diagnose the presence of a syntactic feature or value—see §6.3.2 for discussion.

Thus far, we have mainly looked at examples where an NP overtly expresses its [K], either as a nominative suffix (in the presence of a [NOM] value) or as an oblique suffix (in the absence of a [NOM] value). However, as was discussed in §6.2.2, this [K] feature often goes entirely unexpressed—that is, the NP has no suffix. In the next section, I provide some evidence for why it is necessary to draw a distinction between NPs with underlying unexpressed [K:NOM] feature, and NPs with an underlying unexpressed [K] feature *not* valued with [NOM].

6.6 Evidence for unrealized [K]

In this section, I argue that the ability of an object to control switch-reference marking on an adjacent clause is dependent on whether or not it has a [NOM] case value. I start by showing that this property holds of objects with overt, morphologically-realized case. I then show that objects whose case is unexpressed vary in the same way, implying that they too can have or lack [NOM].

We saw in §6.4 that the object of a dative-subject transitive verb can have a overt nominative or oblique case-marker, as illustrated in (37).

(37) Bill-at chokka-m-**at**/-**a** i-toba-tok
Bill-NOM house-DEM-**NOM**/-**OBL** DAT-be.made-PST
'Bill had that house built.' (C_02-08-18_147, C_02-08-18_148)

And it has been previously documented that when a nominative-marked object is coreferential with the subject of an adjacent clause, it is possible to join the clauses using *same-subject* switch-reference marking.[16] Some examples of this are given in (38) (with (38c) coming from Chickasaw).

(38) **Nominative object of dative-subject transitive *may* be evaluated for switch-reference**

a. Ofi-yat$_i$ a-kaníiya-**cha** *pro*$_i$ sa-hooyo-tok.
dog-NOM 1SG.DAT-leave:LG-**and.ss** 1SG.ABS-seek-PST
'I lost the dog, and it looked for me.' (Davies 1986:101)

b. Chokfi-yat$_i$ a-lhakóffi-**cha** *pro*$_i$ baliili-tok.
rabbit-NOM 1SG.DAT-miss:LG-**and.ss** run-PST
'I missed the rabbit, and it ran.' (Davies 1986:101)

c. John-at$_i$ ofi'-at$_k$ im-ambiika-tok *pro*$_{i/k}$ sa-kisili-**tokat**.
John-NOM dog-NOM DAT-sick-PST 1SG.ABS-bite-**SUB.SS**
'John's dog was sick when he/it bit me.' (Chickasaw, Broadwell 1997a)

In contrast, when the object of a dative-subject transitive bears overt *oblique* case, it is not possible to use same-subject marking to indicate that it is coreferential with the subject of an adjacent clause. This is shown in (39).

(39) **Oblique object of dative-subject transitive *may not* be evaluated for switch-reference**

a. Aayíshko-m-a im-ittóola-**na**/-***cha** koowa-h.
cup-DEM-OBL DAT-fall:LG-and.DS/-*and.SS smash.NACT-TNS
'He dropped the glass and it smashed.' (A_10-18-19, judgments)

b. Cabbage-m-a am-iháksi-**na**/-***cha** showa-tok.
cabbage-DEM-OBL 1SG.DAT-forget:LG-and.DS/-*and.SS stink-PST
'I forgot about the cabbage and it rotted.' (A_10-18-19, judgments)

But if we take the same configuration as (38-39)—where the object of the dative-subject transitive is coreferential with the subject of an adjacent clause—but we strip case-marking from the object entirely, we find that it is possible to use same-subject marking once again. This is shown in (40).

(40) **Unmarked object of dative-subject transitive *may* be evaluated for switch-reference**

a. Mary-at ofi$_i$ im-ílli-**cha**(/-na) *pro*$_i$ showa hikiit iya-tok.
Mary-NOM dog DAT-die:LG-**and.ss**(/-and.DS) smell up.to go-PST
'Mary's dog died and began to smell.' (E_08-16-17, judgments)

16. This data shows that the term 'same-subject' (and, by extension, 'different subject') is a misnomer. It would be more accurate to use terms like 'same-something' and 'different-something', as noted by McKenzie (2012).

b. Mary-at car$_i$ i-hikíya-hm-**at**(/-a) *pro*$_i$ okpolo-tok alhlhi-tok.
Mary-NOM car DAT-stand:NG-when-**ss**(/-DS) break.NACT-PST always-PST
'When Mary had a car, it was always breaking.'
(L_08-08-17 judgments, A_08-08-17 judgments)

c. Jim-at katos$_i$ i-kaniiya-hm-**at**(/-a), *pro*$_i$ falaama-t ik-hayáak-o-h.
Jim-NOM cat DAT-leave-when-**ss**(/-DS) return-PTCP IRR-appear:LG-NEG-TNS
'When Jim lost his cat, it didn't come back again.'
(L_08-08-17 judgments, A_08-08-17 judgments)

d. Cyndi-at glass$_i$ im-ittóola-**cha**(/-na) *pro*$_i$ koowa-h.
Cyndi-NOM glass DAT-fall:LG-**and.ss**(/-and.DS) smash.NACT-TNS
'Cyndi dropped the glass and it smashed.' (A_08-10-17, judgments)

The fact that these unmarked objects still pattern as though they can get a nominative case value constitutes evidence that they *can* get a nominative case value. It just need not be realized.[17] In the next three sections, I discuss how case values do and do not converted into case markers, and the factors which condition the (non)-realization of case features and values. §6.7 proposes a technical analysis of case-realization, couched in terms of *variable* Dissociated Node Insertion (DNI). §6.8 then discusses three properties of NPs, and their structural and linear environments, that force case-realization to take place. Finally, §6.9 discusses the poorly-understood *case OCP* of Choctaw, in which the linear and morphosyntactic environment of a NP may serve to *block* case-realization.

6.7 Realizing case

My contention in this chapter is that Choctaw's nominal case system has two main, sequentially-ordered components. The first component, described in §6.4-§6.6 determines which arguments have their [K] features valued with [NOM] and which do not. The latter component determines which NPs have their [K] features expressed morphologically, and which NPs do not. In this section, I examine the latter component.

§6.7.1 outlines which NPs obligatorily have their [K] features expressed, and for which NPs case-marking is optional. §6.7.2 then reiterates and refines the analysis proposed in §6.2.2, where case (non-)realization is modeled as the (non-)application of a DNI rule that inserts a K terminal K atop the extended projection of the NP. As we will see in subsequent sections, the (non-)application of this rule is conditioned by various factors both at the *edge* of the NP and in its immediate surrounding environment.

17. Davies (1981a, 1986) states that overt nominative morphology on the object of the dative-subject transitive *is* necessary to allow same-subject marking in this configuration, but the speakers I consulted disagreed.

6.7.1 Obligatory and optional case-realization

There are contexts in which Choctaw nominals must be case-marked and contexts in which they are optionally case-marked. Here I discuss each of them in turn. There are also certain nominals which cannot be case-marked, and I turn to them briefly at the end of this section.

Obligatory case-marking is caused by three unrelated factors. Firstly, case-marking is obligatory for most subjects, as in (41a).[18] Secondly, it is obligatory for NPs with determiners, as in (41b). Thirdly, it is obligatory for arguments that have undergone fronting to a position before the subject, as in (41c).[19]

(41) **Three factors that mandate case-marking on an NP**

a. NP is a subject
Imaabachi-*(**yat**) sa-písa-tok.
teacher-*(**NOM**) 1SG.ABS-see:NG-PST
'The teacher saw me.' (C_06-09-16_170)

b. NP has a determiner
Imaabachi-yat allaa-m-*(**a**) shooli-tok.
teacher-NOM child-DEM-*(**OBL**) hug-PST
'The teacher hugged that child.' (J_06-23-16_87)

c. NP has been fronted
Tákkon-*(**a**)$_i$, John-at t_i chopa-h.
peach-*(**OBL**) John-NOM buy-TNS
'John bought a peach.' (Broadwell 2006:39, reglossed)

For most other NPs, case-marking is optional. *In-situ* objects without determiners are generally unmarked for case, but speakers judge case-marking on them to be acceptable. This is shown for oblique objects in (42a) and nominative objects in (42b). The same goes for nominals in non-argument positions, such as the scene-setting temporal nominal *himak nittak* 'today' in (42c).

(42) **Other NPs are optionally case-marked**

a. Bill-at alíkchi-(**ya**) i-paya-tok.
Bill-NOM doctor-(**OBL**) DAT-call-PST
'Bill called the teacher.' (A_06-09-17_43, judgment)

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18. Case-marking on subjects is *not* obligatory in three contexts: firstly, it is not obligatory in the event that a possessor has raised out of the subject to become a *possessor-topic*. This is discussed in sections 6.4 and 5.8 in more detail. Secondly, it is not obligatory in relative clauses, on which see footnote 24. Thirdly, nominative may sometimes be omitted outside of these environments, especially by younger speakers, in a way that is, to my observations, not systematic. This 'unconditioned' nominative-dropping is briefly discussed in the chapter appendix §6.13.

19. Ulrich (1986:17) and Broadwell (2006:74) claim that extraposition of an NP to the right of a clause also makes case-marking obligatory. Munro (1984b:638) makes the same claim for the closely-related Western Muskogean language Chickasaw. However, the speakers I consulted would often volunteer sentences like (i), showing that extraposition does not induce a case requirement for all speakers.

(i) *Alla mat kólitok, kocha ápisa.*
allaa-m-at kooli-tok, kocha=aapísa
child-DEM-NOM break-PST outside=window
'The child broke the window.' (D_10-13-18_61)

b. Chishn-ak-oosh iskali-(**at**) chi-kaniiya-h.
you-FOC-NOM.SP money-(**NOM**) 2SG.DAT-leave-TNS
It's you who lost the money.' (L_06-15-17_95, L_06-15-17_96)

c. Himak nittak-(**a**) ish-baliil-aachi-h-o?
now day-(**OBL**) 2SG.ERG-run-FUT-TNS-Q
'Are you going to run today?' (H_06-11-16_74, judgment)

Similarly, case-marking is almost always omitted from *in-situ* determinerless possessors, as in (43a), although overt case-marking on determinerless possessors is possible, albeit awkward or unusual, as in (43b-c).

(43) **In-situ possessors are optionally case-marked**

a. *John im ofi yat okshinillitok.*
John-**Ø** im-ófii-yat okshinilli-tok
John DAT-dog-NOM swim-PST
'John's dog swam.' (C_01-31-18_111)

b. Suzie-**ya** ishki afaama-li-tok
Suzie-OBL mother meet-1SG.ERG-PST
'I met Suzie's mother.' (D_10-15-18, judgment)

c. Haknip-**a** i-palah-at nishkin-ak-okii.
body-OBL DAT-light-NOM eye-FOC?-indeed
'The light of the body is the eye.'
(Broadwell 2006:69, reglossed, quoting Choctaw Bible, Matthew 6:2)

A generalization regarding the distribution of obligatory and optional case-marking is given in (44).

(44) **Distribution of obligatory and optional case-marking**

Case-marking is obligatory on (a) subjects, (b) nominals which have undergone A'-movement, and (c) nominals with determiners. Case-marking is optional for most other nominals.

Before moving on I briefly mention those nominals which reject case-marking entirely. These include the predicate object of a copula (45a), NPs inside compounds (45b), and NPs adjacent to other nominals bearing the same case-marker (45c).

(45) **Nominals which reject case-marking**

a. Copular objects

Pam-at holisso pisáachi-{*at/*a}.
Pam-NOM teacher-{*NOM/*OBL}
'Pam is a teacher.' (Broadwell 2006:69)

b. NP inside compound

[Holisso-(*ya) aapísa] iyaa-li-tok.
paper-(*OBL) see.NMZ go-1SG.ERG-PST
'I went to the read-books (=school).' (D_10-15-18, judgment)

c. NP in violation of case OCP
Hopóoni-yat akakoshi-(*yat) im-alwashaa-tok.[20]
cook-NOM egg-(*NOM) DAT-fry.NACT-PST
'The chef had the eggs fried.' (A_02-06-18a_88)

Of these three, the ban on case-marking on copular objects, in (45a), is quite mysterious, and I can offer no account of it here (although copular objects are common sites of exceptional case-marking, cf. Baker 2015:221).[21] Regarding the ban on case-marking inside compounds, as in (45b), this can be attributed to compound-internal nominals being so structurally reduced as to lack a [K] feature (cf. Levin 2015, though I am unable to explore this idea further here). The 'case OCP' effect in (45c) is discussed in detail in §6.9.

I now reiterate and flesh out the two-step process by which [K] features are turned into morpophonological exponents, first by insertion of a K node, then by Vocabulary Insertion at that node.

6.7.2 Case-realization as optional Dissociated Node Insertion

I proposed in §6.2.2 that case-realization should be encoded as the application of the rule in (46), a *Dissociated Node Insertion* (DNI) rule in the sense of Halle and Marantz (1993), Embick (2010) and Choi and Harley (2019). Note that the rule preserves the value or values of [K], by adding them as features to K. When we see a case-marker, it is because this rule has applied; when we do not, it is because this rule has not applied.

(46) **DNI rule converting [K] feature into K terminal**

$XP_{[K:\alpha]} \rightarrow$ XP / <conditioning environment(s)>

XP $K_{[\alpha]}$

K is then spelled out in accordance to the presence vs. absence of a [NOM] feature, as per the Vocabulary Insertion rules in (47) (whose application is regulated by the Elsewhere Principle, Kiparsky 1973). These are just the rules for the neutral case markers *-at*/*-a*; other VI rules result in the insertion of contrastive or special case-markers (see §6.11).

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20. Judgments on these kind of sentences are particularly variable—see §6.9 for discussion of 'case OCP' effects in Choctaw.

21. There is in fact a way of forcing case-marking onto the object of a copula: by putting a determiner on it. Determiners, as shown in §6.8.1, must have a following case-marker:

(i) *Ohóyo pa siyah.*
ohooyo-p-**a** si-ya-h
woman-this-**OBL** 1SG.ABS-be-TNS
'I am this woman.' (D_10-23-18_59)

Broadwell (2006:79) also notes that the suffix *-ak* (for him 'oblique', in this dissertation 'FOCus') is common on copular objects:

(ii) John-**ak** si-ya-h.
John-**FOC** 1SG.ABS-be-TNS
'I am John.' (Broadwell 2006:79)

(47) **Vocabulary Insertion rules inserting neutral case-markers at K terminals**

a. $K_{[NOM]} \leftrightarrow$ *-at*

b. $K \leftrightarrow$ *-a*

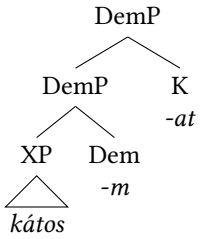
The variability in this system is located entirely at the DNI stage—once a K has been added to the morphological representation of a word, Vocabulary Insertion rules always apply.

Note that before we can begin to explore the as-yet-unspecified conditioning environments for (46), we need to be clear about what XPs can end up with a [K] feature, which is what makes them eligible for this rule in the first place. I assume that the [K] feature percolates up to the highest projection within the extended projection of the NP (xNP, on which see §2.6.1). Thus if xNP is headed by a demonstrative determiner ('Dem'), K will be inserted atop DemP, as in (48b); if xNP is headed by a focus marker (call it 'Foc'), K will be inserted atop FocP, as in (49b), and so on.[22]

(48) **DemP after DNI of K**

a. kátos-m-at
cat-DEM-NOM

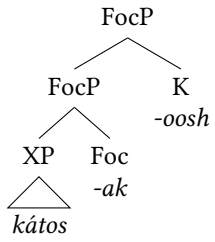
b.



(49) **FocP after DNI of K**

a. kátos-ak-oosh
cat-FOC-NOM.SP

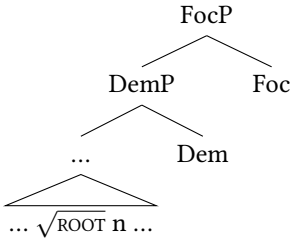
b.



Furthermore, the DNI rule in (46) needs to be *unable* to apply any projection that is not at the top of xNP. For instance, if the functional sequence of an xNP is as in (50a), the DNI rule can only apply atop FocP, resulting in (50b), and cannot insert a K node at DemP, which would result in the ungrammatical string in (50c).

(50) **DNI may only apply to topmost XP in xNP**

a.



b. kátos-m-ak-oosh
cat-DEM-FOC-NOM.SP

22. Recall that certain functional heads, such as the focus-marker *-ak*, condition the case-markers to show up in their special rather than neutral forms—see §2.6.1 and §6.11.

c. *kátos-m-at-ak
cat-DEM-NOM-FOC

Further evidence that the DNI rule can only apply to the rightmost/outermost head in an NP comes from NPs with internal modifiers, on which see §2.6.2 and §2.7.2: as shown in (51), the head nominal is not case-marked in the presence of an internal modifier (which may be a verb, as in (51a-c), or a 'full' demonstrative, as in (51d)).

(51) **Case-marker follows NP-internal modifiers**

a. *Iti toklo mat itti o̲ káhah.*
[**iti** tókloo-m-at] itti-o̲-kaaha-h
wood two-DEM-NOM RECIP-SUP-lie.DU-TNS
'Those two sticks are lying on top of each other.' (A_01-29-18a_14)

b. *Alla mo̲ma kat okla ma̲ya mo̲mah.*
[**alla** mo̲ma-k-at] okla=ma̲ya-mo̲ma-h
child all:NG-COMP-NOM PL=be.PL:NG-still-TNS
'All the kids are still here.' (I_01-31-18_129)

c. *Alikchi yammat alla chipo̲ta alhíha masálichi bannah.*
[**alíkchi** yamm-at] alla chipo̲ta alhiiha masaali-chi banna-h
doctor DEM-NOM child little group heal-CAUS want-TNS
'That doctor wants to cure the kids.' (F_06-28-16_61)

d. *Hattak assanóchi mat] piih iláp a̲tta.*
[**hattak** assanóochii-m-at] pii ilaap a̲tta[23]
man old-DEM-NOM just self be:NG
'That old man just lives by himself.' (L_08-14-17_15)

These examples show us that a case-marker can only show up at the right edge of the whole NP structure. This supports that claim that K can only be inserted on the rightmost/outermost head in the extended projection of a nominal.[24]

To account for the outermost-projection-only restriction on the DNI rule, I propose that the DNI rule applies *only* at the clausal level, and not within the xNP. This is made possible with a model of the grammat-

23. This sentence was uttered with a final glottal stop, which I take to signify the absence of the default tense morpheme *-h*. See the discussion of the final glottal stop on verbs in §2.2.2.

24. The unavailability of case-marking on nominals that head larger NPs could be related to an interesting feature of Choctaw relative clauses, which is that they sometimes allow nominative case to be omitted on their subjects (Ulrich 1986, Gordon and Munro 2017:23). Some volunteered sentences featuring relative clauses with unexpectedly-caseless subjects (in bold) are given in (i). Note also that the quantified subject of (51b) could be analyzed as a relative clause with a caseless subject (as suggested in §2.7.2).

(i) **Subjects of relative clauses may be caseless**

a. *Hattak ofi pi̲sa kásh mat hoklitok.*
[**hattak** ofi pí̲sa-k-aash-m-at]$_{RC}$ hokli-tok
man dog see:NG-COMP-PREV-DEM-NOM catch-PST
'The man who saw the dog caught it.' (C_06-14-17_44)

b. *Bill at ofi kopóli kásh ma̲ i̲ nokshópah.*
Bill-at [**ofi** kopooli-k-aash-m-a̲]$_{RC}$ i̲-nokshoopa-h
Bill-NOM **dog** bite-COMP-PREV-DEM-OBL DAT-scare.NACT-TNS
'Bill is scared of the dog that bit him.' (C_06-14-17_55)

ical architecture in which clausal morphology and nominal morphology are computed at different *phases* (Chomsky 1995, 2001). The morphological rules inserting case morphemes apply only within the VoiceP and CP phases, but *not* within the NP/xNP phase (see Baker 2014a, 2015 and Levin 2017 for similar proposals involving phase-indexed case-assignment rules).[25] This comports with the findings in the following section (§6.8) that the only properties which mandate application of the DNI rule are (a) properties of the clause in which it appears and (b) properties of the outermost functional head in xNP.

So now that we have determined that the rule inserting a K node may only apply at the rightmost/topmost projection in xNP, when does it actually apply? The first relevant point is that determinerless, in-situ NPs, as in (52) are *optionally* case-marked (note that this applies whether or not they have a focus-marker).

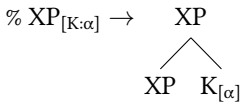
(52) **Determinerless in-situ NPs are optionally case-marked**

a. Suzie-at im-ófi-**(ya)** lhiyohli-tok
Suzie-NOM DAT-dog-(OBL) chase-PST
'Suzie chased her dog.'

b. John-ak-**(o)** afaama-li-tok
John-FOC-(OBL.SP) meet-1SG.ERG-PST
'It was John that I met.' (B_10-17-18_38)

For this reason, I build optionality into the elsewhere rule—that is, in the absence of any more-specific conditioning factors, which might mandate the application of the DNI rule, the rule in (53) may freely apply or not apply, perhaps conditioned by extra-syntactic or non-syntactic factors. This is in keeping with a line of work arguing that variability and optionality, including that of the Labovian type, is encoded on morphological features and rules themselves (Parrott 2007, Nevins and Parrott 2010).

(53) **Elsewhere DNI rule converting [K] feature into K terminal**



In the next section (§6.8), I investigate the three conditioning factors that make application of the DNI

c. *Alla si apíla kásh ma ná chapoli alhíha chopali kásh imálitok.*
[**alla** si-apiila-k-aash-m-a]RC naa chapoli alhiiha chopa-li-k-aash im-aa-li-tok
child 1SG.ABS-help-COMP-PREV-DEM-OBL thing sweet group buy-1SG.ERG-COMP-PREV DAT-give-1SG.ERG-PST
'I gave the candies I bought to the kid who helped me.' (C_02-02-18_164)

d. *Ohóyo mat alla kopóli kásh i nokshópah.*
ohooyo-m-at [**alla** kopooli-k-aash]RC i-nokshoopa-h
woman-DEM-NOM **child** bite-COMP-PREV DAT-scare.NACT-TNS
'That woman is scared of the child that bit her.' (A_06-12-17b_54)

25. An alternative way to account for this restriction would be to say that the [K] feature obligatorily percolates to the highest head within xNP, *and* is absent from all lower projections within xNP. This explanation seems about as stipulative as the phase-based one, so I leave it for future work to determine which explanation has better empirical support.

rule *obligatory*, exemplified in (41). Because these conditioning factors can be given specific, morphosyntactic characterizations, they supersede the optional rule in (53) because of the Elsewhere Principle. First, however, I provide a brief note on certain factors which probabilistically, rather than categorically, condition the application of the DNI rule in (53).

6.7.3 On 'optional' case-marking

As the situation stands, certain NPs in certain syntactic contexts, such as the objects in (52), are described as exhibiting 'optional' case-marking. What this means in categorical terms is that case-marking is neither forbidden nor mandated for those NPs. But, case-marking may still be *probabilistically* conditioned by other factors, syntactic and non-syntactic.

Broadwell (2006:75) notes that several factors make case-marking of objects more likely, without making it obligatory. Firstly, objects with non-native phonology are more likely to be marked, but as (54) indicates, the presence of non-native phonology alone is insufficient to force case-marking (the final /u/ of *Matthew* does not feature in native Choctaw phonology).

(54) **NPs with non-native final segments are not obligatorily case-marked**

Matthew i lomálih.
Matthew i-lomaa-li-h
Matthew DAT-hide-1SG.ERG-TNS
'I'm hiding from Matthew.' (A_02-08-18_37)

Second, the first of two objects in a ditransitive is likely to be case-marked, as shown in (55a), though (55b) shows that this by no means obligatory.

(55) **NPs that are the first of two objects are not obligatorily case-marked**

a. *Alla alhíha yat miko ha holisso oklimátok.*
alla alhiiha-yat **mi-koh-a** holisso okl=im-aa-tok
child group-NOM chief-OBL paper PL=DAT-give-PST
'The kids gave the chief a letter.' (I_01-31-18_125)

b. **chim-alla** tóowa im-aa-li-tok.
2SG.DAT-child ball DAT-give-1SG.ERG-PST
'I gave your kid a ball.' (N_06-07-17_108)

Third, most objects with the focus-marker *-ak* receive case-marking, as in (56a), but (56b-c) show that it is not obligatory.

(56) **NPs with the focus marker *-ak* are not obligatorily case-marked**

a. *Kíyo, John at chishnáko chi holloh.*
kiiyo, John-at **chishn-ak-o** chi-hollo-h
No John-NOM you-FOC-OBL.SP 2SG.DAT-love-TNS
'No, John loves YOU.' (C_06-09-16_163)

b. *Hachishnak hachi nowálitok.*
hachishn-ak hachi-nowaa-li-tok
y'all-FOC 2PL.DAT-walk-1SG.ERG-PST
'I visited ALL Y'ALL.' (A_01-30-18_155)

c. *Bashpo yamma ishih, hikma anáto pak ishiláchih.*
bashpo yamm-a ishi-h, hi-km-a an-aato **p-ak** ishi-l-aachi-h
knife DEM-OBL take-TNS LV-if-DS I-NOM.CONTR **DEM-FOC** take-1SG.ERG-FUT-TNS
'Take that knife, I will take this one.' (B_06-20-17_20)

Additionally, Broadwell (2006:74) suggests that "Choctaw speakers tend to interpret NPs with overt accusative marking as topical", but does not provide evidence for this. Ultimately, an investigation of the factors that probabilistically rather than categorically condition the appearance of case-marking will require the development of a more substantial corpus of Choctaw than currently exists, though this is an exciting prospect for future work.

6.8 Three factors that mandate case-realization

Here I consider three factors that mandate case-realization, modelled here as the application of the rule that inserts a dissociated K node. The first is when the NP is headed by a demonstrative (§6.8.1). The second is when the NP undergoes A'-movement (§6.8.2). I propose that this should be modelled in the same way as the first factor, following recent research arguing that constituents undergoing A'-movement are headed by a dedicated functional head Q (Cable 2010a,b). The third factor mandating case-realization is when the NP is in subject position. This is discussed in §6.8.3.

Notably, a property shared by all of these factors is that they are morphosyntactically encoded either at the outermost edge of the NP, or in its surrounding clausal context. NP-internal properties do not seem to be a consideration in case-realization. As was discussed in §6.7.2, it seems that the mechanisms that lead to case-realization are only sensitive to the morphosyntactic properties of the highest phrase in the extended projection of the NP and of the clause. This can be derived from the stipulation, discussed in §6.7.2, that the mechanisms of case-realization (DNI and VI of K) take place following the construction of the VoiceP and CP phases, but *not* following the construction of the NP/xNP phase.

6.8.1 Demonstratives

Having a determiner forces an NP to be case-marked, provided no further morphology follows the determiner. (57) shows that NPs with the determiners *-m-* 'that' and *-p-* 'this' must be case-marked when they are oblique objects (a-b) and possessors (c), and (58) shows the same for nominative objects.

(57) **Objects with demonstratives are obligatorily case-marked**

a. Alla nokóowaa-m-*(a) písa-li-tok.
child angry-DEM-*(OBL) see:NG-1SG.ERG-PST
'I saw the angry kid.' (E_06-01-17_6, judgment)

b. Chokka olasi-p-*(a) átta-li-h.
house next-DEM-*(OBL) be.SG:NG-1SG.ERG-TNS
'I live in the next house.' (G_08-09-17_3, judgment)

c. Chokkaa-m-*(a) im-okkísa-yat okpolo-h.
house-DEM-*(OBL) DAT-door-NOM break.NACT-TNS
'The door to that house is broken.' (G_08-14-17_56, judgment)

(58) **Subjects with demonstratives are obligatorily case-marked**

a. Car-m-*(at) i-hikíya-mom-aachi-h…
car-DEM-*(NOM) DAT-stand:NG-still-FUT-TNS
'She will still have that car… (when she is old).' (B_06-20-17_78, judgment)

b. Ilokkaa-p-*(at) a-tob-aachi-h.
dress-DEM-*(NOM) 1SG.DAT-make.NACT-FUT-TNS
'I will have this dress made.' (A_04-17-19, judgment)

We can account for this with the DNI rule in (59), which supersedes the more-general optional rule in (53).

(59) **DNI rule converting [K] feature on DemP into K terminal**

$\text{DemP}_{[\text{K:}\alpha]} \rightarrow$ DemP

DemP $\text{K}_{[\alpha]}$

When the demonstrative is *not* the rightmost/outermost head in xNP, the requirement for case at the right edge of the NP disappears—that is, the rule in (59) does *not* apply. This is illustrated by the examples in (60), in which the demonstrative is followed by a focus-marker (and optionally some further material).

(60) **NPs with non-final demonstratives are *not* obligatorily case-marked**

a. *Tachi mak okla apatok.*
tachi-**m-ak** okl=apaa-tok
corn-**DEM-FOC** PL-eat-PST
'They ate that corn.' (A_02-01-18_63)

b. *Okla oshi yat yakni pak ámítih.*
okla oshi-yat yakni-**p-ak** aa-miiti-h
people child-NOM land-**DEM-FOC** LOC-come-TNS
'The native people are from this land.' (A_01-29-18b_163)

c. *Akaka nipi makilla ishpakat alhlhitoko?*
akaka nípii-**m-ak-illa** ish-pa-k-at alhlhi-tok-o
chicken meat-DEM-FOC-only 2SG.ERG-eat-COMP-SS true-PST-Q?
Did you really eat only chicken? (C_06-22-16_114)

This follows from the analysis in §6.7.2: the DNI rule that inserts K only applies to the highest layer in an NP's extended projection. The determiners in (60) do not head the highest projections in xNP, so the DNI rule cannot affect them.

At this point, it is necessary to address an empirical challenge to the idea that all NPs with determiners are case-marked. The relevant data comes from examples like those in (61), which appear to show NPs ending in *-ma* and *-pa*, without the nasalization signifying oblique case.

(61) **Possible instances of NP-final demonstratives without case-markers**

a. Ofi'-**ma** ish-písa-h-o?
dog-**DEM** 2SG.ERG-see-TNS-Q
'Did you see that dog?' (Broadwell 2006:77)

b. **Yamma** iit am-aa-h!
DEM toward 1SG.DAT-give-TNS
'Give that to me!' (Broadwell 2006:67)

c. Hattak-**ma** kaah-at aa-nowa-naaha-na wannichi-h kaniiya-h
man-**DEM** car-NOM LOC-walk-almost-and.DS shake-TNS really-TNS
'A car nearly ran over that man, and he was really shaking.' (Broadwell 2006:209)

d. Tali' lósa' sa-bbak **pa** hikíya-h.
rock black 1SG.ABS-arm **DEM** stand:NG-TNS
'There's a mole here on my arm.' (Broadwell 2006:337)

e. … **ilappa** i-shahli-fiihna-ka im-otanich-ahii-okii.
DEM DAT-exceed-greatly-COMP DAT-show:NG-MOD-indeed
'He will show him greater works than these.' (John 5:20 in Broadwell 2006:213)

If the determiners have the underlying representations *-ma* and *-pa* (rather than *-m-* and *-p-* as I suggest here), then these examples appear to feature objects with determiners but without case.

The difficulty with these examples is that nasalization on the final vowel is often hard to discern, except in phrase-final position. This is especially true of *-ma*/*-ma*, where the nasal quality of the /m/ would be expected to persevere into the following vowel, regardless of whether it is phonologically nasalized.[26] For now, I assume that the non-nasal quality of the vowels in (61) is a purely phonological effect, without any status in the morphology. However, this requires further investigation.

26. *-m-* 'that' is significantly more common than *-p-* 'this'.

We now turn to the second property that forces case-realization on an NP: undergoing A'-movement. I argue that case-realization for these NPs is forced via a rule very similar to that in (59).

6.8.2 A'-movement

In this section, I first show that A'-movement to a pre-subject position forces an NP's case to be realized. I then argue that we should understand this as taking place via essentially the same mechanism as was described in the previous section: particular functional categories in the nominal spine, when they head xNP, induce case-marking. The head in this case is a null head Q (Cable 2010a,b), which sits atop all constituents that undergo A'-movement.

The basic point is illustrated by (62). In (62a), the object is in-situ, with optional case-marking. In (62b), the object is fronted so it precedes the subject, and case-marking is obligatory.

(62) **Fronting induces case-marking**

a. John-at tákkon-(**a**) chopa-h.
John-NOM peach-(**OBL**) buy-TNS
'John bought a peach.'

b. Tákkon-*(**a**)$_i$, John-at t_i chopa-h.
peach-*(**OBL**) John-NOM buy-TNS
'John bought a peach.' (Broadwell 2006:39)

We see the same pattern with argumental *wh*-phrases, which may optionally front in Choctaw (see §2.7.1). The in-situ *wh*-object in (63a) is optionally case-marked, while the fronted *wh*-object in (63b) is obligatorily case-marked. And the same pattern holds for possessors: the *in-situ* possessor in (64a) may be marked or unmarked for case, while the moved possessor in (64b) must be case-marked.[27, 28]

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27. The relationship between case(-marking) and extraposition is less clear. While some previous authors have claimed that extraposed NPs require case-marking (see footnote 19), this is not true for the speakers I consulted—see (i.a), as well as (i) in footnote 19. For another thing, (i.b) shows that an extraposed subject NP may be exceptionally marked with oblique case instead of nominative.

(i) a. *Áfohálikmat, falat alálikmat achokka.*
aa-fohaa-li-km-at, fala-t alaa-li-km-at a-chokka
LOC-rest-1SG.ERG-if-SS return-PTCP come-1SG.ERG-if-SS 1SG.DAT-house
'When I rest, when I come home…' (D+_10-11-18_DT)

b. *Sa masálichitok, alikchi ma.*
sa-masaali-chi-tok, alíkchi-m-**a**
1SG.ABS-heal-CAUS-PST doctor-DEM-OBL
'She cured me, the doctor did.' (E_08-09-17_65)

It remains for future work to determine whether this is restricted to younger speakers, or is a general property of extraposition in Choctaw. For now, I set aside extraposition and focus solely on fronting.

28. A consultant provided the sentence in (i), in which an apparently-moved *wh*-phrase is *not* case-marked. Interestingly, however, the 'movement' is from an adjoined clause, an environment which would require a resumptive pronoun rather than a gap in English. This would be a fascinating topic for further investigation.

(63) **Fronting object *wh*-phrase induces case-marking**

a. Hattak-m-at kátah-**(o)** i-toksali-h?
man-DEM-NOM who-**(OBL)** DAT-work-TNS
'Who does that man work for?' (G_08-14-17_31, judgment)

b. Kátah-*(o)$_i$ hattak-m-at t_i i-toksali-h?
who-*(OBL) man-DEM-NOM DAT-work-TNS
'Who does that man work for?' (G_08-14-17, judgment)

(64) **Fronting possessor *wh*-phrase induces case-marking**

a. John-at [kátah-(**o**) ittiyaapishi-yo] haksichi-tok?
John-NOM who-(OBL.SP) sibling-OBL.SP trick-PST
'Whose sibling did John trick?' (C_06-30-16_111, judgment)

b. Kátah-*(**o**)$_i$ John-at [t_i ittiyaapishi-ya] haksichi-tok?
who-*(OBL.SP) John-NOM sibling-OBL trick-PST
'Whose sibling did John trick' (C_06-30-16_110, judgment)

These examples also serve to show that the distinction between *in-situ* and A'-moved NPs is independent of the distinction between neutral and special case-markers (discussed briefly in §6.2.1): the NPs in (62), bearing neutral case-markers, show exactly the same interaction between case-marking and fronting as the *wh*-NPs in (63-64), which bear the special case-markers.

To support the formal analysis, which invokes Cable's *Q-particle* analysis of A'-movement, it is necessary to show two things: firstly, that case-inducing movement illustrated above really is *A'*-movement, rather than some other type or movement, or just movement in general; secondly, that obligatory case-marking doesn't simply follow from being in an A'-position—it genuinely requires *movement* of the NP to that position, and being base-generated in the A'-position is not sufficient.

Tackling the nature of the movement first, certain properties of the fronting operation in (62-64) suggest that it is A'-movement.[29] For one thing, NPs that undergo this movement do not acquire nominative case, despite moving into a position above the subject. For another thing, this movement is not clause-bounded. (65) provides some examples of NPs fronting outside of their clause, with (65a) showing an embedded subject fronting outside its clause, and (65b) showing the same for an object.

(i) *Nata Bill at áyittatóba iyatok apat tahlitoko?*
náta$_i$ Bill-at aayittatóoba iya-tok [_$_i$ apa-t tahli-tok-o]
what Bill-NOM store go-PST eat-PTCP finish.ACT-PST-DS
'What$_i$ did Bill have to go to the store because she had finished eating it$_i$?' (A_08-19-17_130)

29. Certain properties of Choctaw grammar make it difficult to diagnose the movement in (62-64) as *A'*-movement using traditional tests. For instance, it would be very difficult to distinguish parasitic gaps (which should be licensed by A'-movement) from Choctaw's generally-available null pronouns. Likewise, the 'verb-like' status of quantifiers and *wh*-words in Choctaw (Broadwell 2006:108-114, 226-233) makes it difficult to test whether fronting can or cannot create new binding possibilities (A'-movement is expected *not* to create new binding possibilities).

(65) **NPs may front to a position outside their clause**

a. Kátah-oosh$_i$ alla-t im-ahwa-h [t_i i̲-chokka mi̲ti-k-a̲]?
who-NOM.SP child-NOM DAT-seem-TNS DAT-house come:NG-COMP-DS
'Who does the kid think is coming to his house?' (A_08-19-17, judgment)

b. Ná̲tah-o̲$_i$ hattak-m-at [Katie-at t_i i̲-kaniiya-h] ih-miya-h-o̲ maka-h?[30]
what-OBL.SP man-DEM-NOM Katie-NOM DAT-lose-TNS LV-QUOT-TNS-DS say-TNS
'What did that man say that Katie lost?' (B_10-23-18, judgment)

(65a) is particularly instructive in showing that arguments in the pre-subject position are not oblique by default, since the fronted *wh*-word *kátahoosh* 'who.NOM' retains the nominative case it is assigned in the embedded clause.

In contrast to this non-clause-bounded fronting operation, we can show that movement operations that target lower positions do *not* induce obligatory case-marking. The two movements I discuss here are *short scrambling*, which targets a position beneath the subject, and movement into the subject position itself. I propose that these are both instances of *A*-movement, and thus we should not expect them to induce obligatory case-marking.

Regarding short scrambling, we can show that Choctaw allows objects to move leftwards a short distance within the middle field (i.e the domain bookended by the subject and the verb) without having to be case-marked (see §2.4). One piece of evidence comes from the interaction of objects and participial clauses: direct objects can appear either directly adjacent to the verb, as in the (a) examples below, or to the left of an intervening participial phrase, as in the (b) examples (see also Broadwell 2006:219).

(66) **Caseless objects can scramble over participle**

a. *To̲shpat bashpo okla haloppachitok.*
[to̲shpa-t] **bashpo** okla=haloppa-chi-tok
be.quick-PTCP **knife** PL=sharp-CAUS-PST
'They quickly sharpened the knife.' (A_02-01-18_58)

b. *Bashpo to̲shpat okla haloppachitok.*
bashpo [to̲shpa-t] okla=haloppa-chi-tok
knife be.quick-PTCP PL=sharp-CAUS-PST
'They quickly sharpened the knife.' (A_02-01-18_59)

(67) **Caseless objects can scramble over participial clause**

a. *Ofit woho̲wat hattak lhiyohlitok.*
ofi-t [wohó̲wa-t] **hattak** lhiyohli-tok
dog-NOM bark:HNG-PTCP **man** chase-PST
'The dog chased the man, barking continuously.' (A_01-30-18_137)

30. As (65b) indicates, quotative constructions in Choctaw can become quite complex—see Broadwell (2006:279-281) for further discussion.

b. Ofi-t **hattak** [wohó̲wa-t] lhiyohli-tok.
dog-NOM **man** bark:HNG-PTCP chase-PST
'The dog chased the man, barking continuously.' (A_01-30-18, judgments)

(68) **Caseless objects can scramble over participial clause**

a. *John at ishtishko sho̲lit áto̲ksali nowat iyah.*
John-at [ishtíshko shó̲li-t] **aato̲ksáli** nowa-t iya-h
John-NOM cup carry:NG-PTCP **workplace** walk-PTCP go-TNS
'John walked to work carrying a cup.' (A_01-30-18_141)

b. John-at **aato̲ksáli** [ishtíshko shó̲li-t] nowa-t iya-h.[31]
John-NOM **workplace** cup carry:NG-PTCP walk-PTCP go-TNS
'John walked to work carrying a cup.' (A_01-30-18, judgments)

We know that the boldface unmarked NPs cannot be the objects of the participial clauses, since the participial verbs in (66-67) *to̲shpa* 'be quick' and *woho̲wa* 'bark continuously' are intransitive, and the participial verb in (68) already has an object within the participial clause. On the assumption that the object of a verb forms a constituent with the verb, to the exclusion of any adjunct participial phrases, the unmarked objects in the (b) examples must have moved from their base-generation sites.[32]

Another piece of evidence for a short scrambling operation within the middle field comes from ditransitive verbs. (69-71) shows that the two objects of ditransitive verbs (including monotransitive verbs with applicative arguments) can show up in either order, without either being case-marked (see also Broadwell 2006).

(69) **Caseless objects of a ditransitive may appear in either order**

a. IO-DO order
Alla illi̲pa imálách i̲h.
alla illípa im-aa-l-aach i̲-h
child food
'I'll give the kid food.' (C_02-02-18_147)

b. DO-IO order
Tówa chim alla imálitok.
tóowa chim-alla im-aa-li-tok
ball 2SG.DAT-child DAT-give-1SG.ERG-PST
'I'll give the ball to your kid.' (N_06-07-17_109)

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31. The sentence in (68b) was deemed acceptable, but many sentences with apparently the same structure were rejected. Their acceptability would improve with the main clause object case-marked. This points to a functional motivation for the use of optional case-marking: indicating the right edge of an NP, where it might otherwise be ambiguous. See also §6.7.3 for discussion of how optional case-marking is more likely to be used on the first of two objects, indicating the boundary between two NPs.

32. It is worth interrogating a premise of this argument, however: is it *necessarily* the case that the main clause objects in (66-68) form a constituent with the main verb to the exclusion of the participial phrase? A plausible alternative analysis would be that the main verb and the participial clause can sometimes form a complex predicate, which then takes the NP as its complement. In that case, the two sentences in (66) would be expected to have different interpretations—potentially, (66b), with complex predicate formation, would show mono-eventive semantics, while (66a) would be bi-eventive. These issues merit investigation.

(70) **Caseless objects of a derived ditransitive may appear in either order**

a. ApplO-DO order
Hattak-m-at Suzie lokashto i-lhilaffi-tok.
man-DEM-NOM Suzie coat DAT-tear.ACT-PST
'That man tore Suzie's coat.' (Tyler to appear)

b. DO-ApplO order
Hattak-m-at lokashto Suzie i-lhilaffi-tok.
man-DEM-NOM coat Suzie DAT-tear.ACT-PST
'That man tore Suzie's coat.' (Tyler to appear)

(71) **Caseless objects of a causativized transitive may appear in either order**

a. Causee-Theme order
Jack at katos iti aboyyachitok.
Jack-at kátos iti aboyya-chi-tok
Jack-NOM cat tree climb-CAUS-PST
'Jack made the cat climb the tree.' (A_01-29-18b_88)

b. Theme-Causee order
Jack-at iti kátos aboyya-chi-tok
Jack-NOM tree cat climb-CAUS-PST
'Jack made the cat climb the tree.' (A_01-29-18, judgments)

I propose that the most plausible way of accounting for this variability is to posit that, in one of the two available orders, one object has scrambled past the other. The alternative analysis, in which arguments can be base-generated in either order, is particularly implausible for the causativized transitive in (71), where we expect the causee and theme to have a fixed hierarchical order.

We have therefore seen that Choctaw has at least one movement operation that does not induce obligatory case-marking in the moving NP. I propose that this movement is A-movement, and so, unlike A'-movement, it does not induce obligatory case-marking. I briefly mention another movement operation that fails to induce obligatory case-marking: movement to subject position. This may at first seem like an odd claim, given that virtually all subjects are marked for nominative case. However, there is one instructive exception to this generalization.

Recall from §6.4 that in possessor-topic constructions (on which see §5.8 and Tyler to appear), an NP sits in the standard subject position, and its possessor moves to a yet-higher position, in which it receives nominative case. Notably, in these clauses it is the possessor which is obligatorily case-marked, while the possessee in subject position may go unmarked for case. Some examples of this are given in (72).

(72) **Possessee in possessor-topic construction may be caseless**

a. *Katos mato i hasibis falaayah.*
kátos-m-ato i-hasibis falaaya-h
cat-DEM-NOM.CONTR DAT-tail long-TNS
'That cat's tail is long.' (A_06-05-17_92)

b. *Chishnakósh chi noshkobo chitoh.*
chishn-ak-oosh chi-noshkobo chito-h
you-FOC-NOM.SP 2SG.ABS-head big-TNS
'It's YOU who has a big head.' (E_08-14-17_12)

The fact that the subject of these clauses need not be case-marked shows that unlike A'-movement, movement to the subject position does *not* induce obligatory case-marking. This is predicted if movement to subject position is A-movement, and not A'-movement.

To summarize thus far, Choctaw has two movement operations that do not induce case-realization in an NP, allowing it to remain unmarked for case even as it moves. This contrasts with fronting, which, as we saw in (62-64), forces the moved NP to be case-marked. I propose that we should analyze this difference as a reflex of the difference between A- and A'-movement.

We can now turn to the second key empirical component of the claim that A'-movement induces case-marking: that *movement* is necessarily involved, and that the property of merely *being* in an A'-position is insufficient to force case-marking on the NP. The evidence for this claim comes from the observation that NPs base-generated in left-peripheral positions are not obligatorily case-marked. To give one example, the left-peripheral locative and temporal expressions in (73-75) show optional case-marking.

(73) **Left-peripheral locative expression is optionally case-marked**

Walmart-(**a**) kána-p-ato a-tahpala-tok.
Walmart-(OBL) someone-this-NOM.CONTR 1SG.DAT-shout-PST
'At Walmart, someone shouted at me.' (C_01-30-18, judgments)

(74) **Left-peripheral temporal expression is optionally case-marked**

a. *Onnahíli fowi apakma achokmah.*
onnahíli fowi apa-km-a achokma-h
morning honey eat-if-DS good-TNS
'It's good to eat honey in the morning.' (N_06-01-17_17)

b. *Onnahíli ya kafi ishkolih.*
onnahíli-ya kafi ishko-li-h
morning-OBL coffee drink-1SG.ERG-TNS
'I drink coffee in the morning' (C_02-05-18_148)

(75) **Left-peripheral temporal expression is optionally case-marked**

a. *Himak nittak ish balílách<u>i</u>ho?*
himak nittak ish-baliil-aachi-h-o
now day 2SG.ERG-run-FUT-TNS-Q
'Are you going to run today?' (H_06-11-16_74)

b. *Himak nittak a binách<u>i</u>t il ilhkólách<u>i</u>h.*
himak nittak-**a** binaachi-t il-ilhkool-aach<u>i</u>-h
now day-OBL camp-PTCP 1PL.ERG-go.PL-FUT-TNS
'Today, we'll go camping.' (L_08-14-17_119)

I assume that these locative and temporal expressions function as 'scene-setting' topics, in the sense of Lambrecht 1994, and are not related to the clause's argument structure. Following Haegeman (2000, 2012), I assume that expressions like this are base-generated in the left-periphery, and do not move to their spellout positions. Adjunct *wh*-expressions, presumably also base-generated in left-peripheral positions, also display optional case-marking, as in (76).

(76) Kátimmah-**(o)** ofi-t nosi-h?
where-**(OBL.SP)** dog-NOM sleep
'Where does the dog sleep?' (A_06-09-17, judgments)

Therefore, the property of simply *being* in an A'-position is not enough to force case-realization—that ony happens when the NP *moves* into an A'-position.

We have seen so far that NPs which undergo A'-movement are obligatorily case-marked. We can now turn to the analysis of this phenomenon, which I assimilate to the analysis of demonstrative-induced case-marking discussed in §6.8.1. I propose that just as xNPs headed by Dem are obligatorily subjected to a DNI rule inserting a K node, xNPs headed by the functional head Q are subject to exactly the same rule.

To briefly introduce Q, (Cable 2007, 2010a,b) proposes that across languages, all constituents that undergo A'-movement are headed by a functional head Q, which projects a phrase QP. A'-movement is, by definition, movement of a QP. In cases of simple *wh*-movement, as in (77a), the QP is coterminous with the *wh*-expression. But in cases of apparent pied-piping, as in (77b-c), the QP contains other elements in addition to the *wh*-expression.

(77) **English: pied-piped *wh*-expressions are headed by Q**
a. [$_{QP}$ *Q* who] do you work for __ ?
b. [$_{QP}$ *Q* for who(m)] do you work __ ?
c. [$_{QP}$ *Q* whose friend's mother] do you work for __ ?

In this way, Cable effectively abolishes pied-piping: so-called '*wh*-movement' is in fact QP movement, and it is not *wh*-features that are targeted by probes in the left periphery, but Q-features. Pied-piping is merely a descriptive term for the situation that arises when QP contains phonological material in addition to the *wh*-expression.

While Q in English is phonologically null, Cable identifies several languages in which Q is overt, devoting the bulk of his dissertation (2007) to the overt Q-particle in Tlingit. He shows that all *wh*-moved

expressions must have the morpheme *sá* at their right edge. This applies to simple *wh*-words as in (78a), but also complex expressions which contain *wh*-words, as in (78b). (78c) shows that *sá* cannot show up *inside* an expression that has undergone *wh*-movement expression—it must sit at its edge. This is the characteristic distribution of a Q-particle.

(78) **Tlingit: Q-particle *sá* appears at right edge of all *wh*-moved constituents**

a. Daa ***(sá)** aawaxáa i éesh?
what ***(Q)** he.ate.it your father
'What did your father eat?'

b. [Wáa kwligeyi xáat]$_{CP}$ **sá** i tuwáa sigóo?
how it.is.big.REL fish **Q** your spirit.at it.is.happy
'How big a fish do you want?' (Lit. 'A fish that is how big do you want?')

c. *[Wáa **sá** kwligeyi xáat]$_{CP}$ i tuwáa sigóo?
how **Q** it.is.big.REL fish your spirit.at it.is.happy

(Cable 2010a:73, 572)

Note that while Cable is concerned primarily with *wh*-movement, he argues that the Q-particle analysis can, and should, be extended to all instances of A'-movement, including topicalization and other forms of fronting (2007:369). This is the analysis I adopt for Choctaw since, as shown in examples such as (62b), fronting non-*wh*-elements has the same effect on case-marking as fronting *wh*-elements.

In Choctaw, it is not quite the case that the Q-particle itself has a single exponent, as in Tlingit. Instead, I propose that Q is subject to a DNI rule inserting a K node in the morphological component of the grammar, and thus it indirectly impacts the phonological form of the nominal by inducing obligatory case-marking. The Q-specific DNI rule is provided in (79). Just like the Dem-induced DNI rule in (59), this rule is *not* optional.

(79) **DNI rule converting [K] feature on QP into K terminal**

$QP_{[K:\alpha]} \rightarrow$ QP
QP $K_{[\alpha]}$

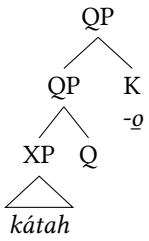
Therefore, following the application of this rule, the A'-moved *wh*-word with an oblique case-marker in (63b), repeated as (80a), has the structure in (80b).[33]

(80) **QP after DNI of K**

a. **Kátah-o**$_i$ ohooyo-m-at t_i i-toksali-h?
who-OBL.SP woman-DEM-NOM DAT-work-TNS
'Who does that woman work for?'

33. It is worth noting that in order for Q to be targeted by the K-inserting DNI rule in (79), Q must have a [K] feature. This puts Q in the extended projection of the nominal, a proposal which explains how it is that predicates will happily 'select through' and probes will happily 'Agree through' Q-particles.

b.



In-situ *wh*-words, by contrast, are not headed by Q, so are not subject to the Q-specific DNI rule in (79). Instead they are subject to the general, optional DNI rule provided in §53.

The final point I make in this section is to show that the obligatory case-marking on A'-moved constituents in Choctaw has the same distribution as the overt Q-particle in Tlingit, providing strong support for the claim that the Q-particle induces obligatory case-marking in Choctaw.

Consider the sentences in (81). In (81a) the in-situ object, and its *wh*-possessor, are unmarked for case. (81b-d) show that whatever size of constituent we move, it is always the moved constituent that must be case-marked, and not the *wh*-element itself. In (81b) the *wh*-word is moved alone, and is obligatorily case-marked; in (81c-d) the *wh*-word is moved as part of a larger constituent, and is unmarked for case.[34, 35]

(81) **Fronted constituents must be case-marked**

a. *Kata im ofi ish pisatok?*
[káta im-ófi] ish-písa-tok
who DAT-dog 2SG.ERG-see:NG-PST
'Whose dog did you see?' (E_08-18-17_4)

b. *Katahǫ John at ittiyápishi yą haksichitok?*
kátah-ǫ$_i$ John-at [t_i ittiyaapishi-yą] haksichi-tok
who-OBL.SP John-NOM sibling-OBL trick-PST
'Whose brother did John trick?' (C_06-30-16_110)

c. *Kata im ofi yǫ Bill at pisatok?*
[káta im-ófi-yǫ]$_i$ Bill-at t_i písa-tok
who DAT-dog-OBL.SP] Bill-NOM see:NG-PST
'Whose dog did Bill see?' (J_07-07-16_100)

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34. As predicted, it is also possible to case-mark the possessor of the moved NP, as in (i).

(i) *Katahǫ ittiyápishi yǫ John at haksichitok?*
[kátah-**ǫ** ittiyaapishi-yǫ] John-at haksichi-tok
who-OBL.SP sibling-OBL.SP John-NOM trick-PST
'Whose sibling did John trick?' (C_06-30-16_106)

35. Whenever a *wh*-phrase pied-pipes nominal structure, as in (81c-d), the entire displaced structure must marked with the special case-markers *-oosh*/*-ǫ* (rather than the neutral forms *-at*/*-ą*). While it would be tempting to say that the special forms appear in the presence of the Q-particle, this analysis cannot be correct, since the Q-particle fails to induce the special forms in cases of fronting or extraposition that do not involve *wh*-expressions (as in (62)). The difference between the neutral and special case-markers requires further investigation.

d. *Kata i tachi yako Mary at apatoko ish makatok?*
[káta i-tachi-yak-o]$_i$ Mary-at t_i apa-tok-o ish-maka-tok
who DAT-corn-FOC-OBL.SP Mary-NOM eat-PST-DS 2SG.ERG-say-PST
'Whose corn did you say Mary ate?' (L_08-07-17_49)

The crucial point is that the A'-moved element is obligatorily case-marked, while its subparts are not. In this way, the distribution of obligatory case-marking in Choctaw reflects the distribution of the overt Q-particle in Tlingit (recall also that the Q-particle heads on *all* A'-moved XPs, including *wh*-expressions and topicalized XPs too).

Thus far, we have seen two factors that induce mandatory insertion of a K-node atop an xNP: when the highest head in xNP is Dem, and when the highest head in xNP is Q. I proposed that more-specific DNI rules, in (59) and (79), supersede the more-general *optional* DNI rule in (53) thanks to the Elsewhere Principle. Next, I discuss a third factor that mandates the insertion of a K node atop an xNP: being the highest, or leftmost, nominative argument in a clause. As we will see, the DNI rule in this case is of a different form.

6.8.3 Being the highest nominative

As was discussed in §6.1, almost all subjects are marked with nominative case. As (82) shows, this applies not only to NPs with those properties that induce obligatory case-marking (e.g. NPs with demonstrative determiners as in (82a)), but also to NPs that are *not* obligatorily case-marked, like the bare subject in (82b). The distinctions that are important for the case-marking of non-subjects, such as presence vs. absence of a demonstrative, are neutralized for subjects.

(82) **Subjects carry overt nominative marking**

a. Ohooyo-m-***(at)** yoppa-tok.
woman-DEM-***(NOM)** laugh-PST
'That woman laughed.'

b. Ohooyo-***(t/yat)** yoppa-tok.
woman-***(NOM)** laugh-PST
'The woman laughed.' (constructed examples)

We can in fact refine the generalization a little further: the property that induces obligatory case-marking here is not in fact about subjecthood. Rather, the relevant property is being the highest nominative-marked NP in an A-position. The crucial evidence for dissociating obligatory case-marking from subjecthood comes from possessor-topic constructions, which are briefly discussed in §6.4 and given a detailed analysis in Tyler (to appear). In these clauses, an NP sits in the subject position, while its possessor sits in a yet-higher position, where it receives nominative case. Both subject and possessor may be marked nominative, as shown in (83).

(83) **Possessor-topic construction: possessor and possessee may both be marked as nominative**

John akósh im ofi yat okshinillitok.
John-ak-**oosh** im-ófi-**yat** okshinilli-tok
John-FOC-**NOM.SP** DAT-dog-**NOM** swim-PST
'It's John whose dog was swimming.' (C_01-31-18_112)

Crucially, however, nominative may be freely dropped on the possessee (and indeed it typically is, thanks to the Case OCP—see §6.9). This is shown in (84a-b). The possessor, by contrast, *must* be marked with nominative, as shown in (84c).[36]

(84) **Possessor-topic construction: nominative on possessee may be omitted**

a. *Michelle at im ofi abíkatok.*
Michelle-at im-ófi-**Ø** abiika-tok
Michelle-NOM DAT-dog sick-PST
'Michelle's dog is sick.' (C_02-05-18_170)

b. *Michelle at im alla isht átapah.*
Michelle-at im-alla-**Ø** isht=aatapa-h
Michelle-NOM DAT-child INSTR-be.too.much-TNS
'Michelle's kid is acting up.' (A_02-08-18_141)

c. *John-**Ø** piláashaash im-ófi-yat illi-h.
John yesterday DAT-dog-NOM die-TNS
('John's dog died yesterday.') (Broadwell 2006:304, reglossed)

We have therefore seen that nominative case is obligatorily realized on the highest nominative NP in an A-position in the clause, irrespective of its internal properties (for instance, there is nothing intrinsic to *John* in (84c) which demands it has its case feature realized). I propose that case-realization on the highest nominative NP is mandated by a DNI rule that makes reference to the NP's morphosyntactic context, given in (85).

(85) **DNI rule converting [K] feature on subject into K terminal**

$XP_{[K:NOM]} \rightarrow$ XP / $[_{clause}$ _

XP $K_{[NOM]}$

This rule states that in the event that a nominative ([K:NOM]-bearing) NP finds itself leftmost in a clause, K-insertion must apply. Note that at the point at which this rule applies, it must be unable to distinguish between overt and *pro*-dropped NPs. This is because nominative objects are not obligatorily case-marked when the subject is *pro*-dropped, even though they are leftmost in their clause:

36. Note that it is necessary to break up the possessor and possessee with an adverb in (84c)—otherwise the possessor would just be interpreted as NP-internal and no problems would arise.

(86) *pro.3* Hohchífo-**(at)** im-ihaksi-tok.
name-**(NOM)** DAT-forget-PST
'She forgot her name.' (A_08-10-17_2, A_08-10-17_8)

It is also necessary to point out that what constitutes a 'clause' for the rule in (85) is as-yet undertheorized. It needs to be defined such that it excludes XPs in A'-positions, since they have no effect on the appearance of case on the subject, yet it also needs include possessor-topics, which sit above the canonical subject position. I leave this issue for future investigation.

Thus far, we have examined three factors that *mandate* case realization, which I model as a DNI operation. Two factors are properties of the NP itself—being headed by Dem (§6.8.1) and being headed by Q (§6.8.2), and one related to the syntactic environment in which the NP appears—being the highest nominative in its clause (this subsection). In the next section (§6.9), I discuss a factor that has the opposite effect: *blocking* case-realization, which I model here as *blocking* the insertion of a K node.

6.9 The case OCP

It has been noted in previous literature that when sequences of Choctaw nouns carry the same case-marker, the resulting sentence is somewhere between 'odd' and 'unacceptable'. This is true both for sequences of nominative noun phrases, as in (87a), and sequences of oblique noun phrases, as in (87b).[37]

(87) **Case OCP: adjacent NPs with the same case marker are */??**

a. ??John-**at** ofi'-**at** im-illi-h.
John-**NOM** dog-**NOM** DAT-die-TNS
'John's dog died.' (Broadwell 2006:304)

b. *?Bill-**a** ofi-**ya** im-aa-li-tok.
Bill-**OBL** dog-**OBL** DAT-give-1SG.ERG-PST
('I gave Bill a dog.') (Broadwell 2006:73)

In this section, I show that this effect should be assimilated to some previously-documented 'Case OCP' effects that exist in other languages, most notably Japanese. Like canonical case OCP effects, it is sensitive both to syntactic constituency *and* surface form. I propose that this effect should be encoded as a constraint on the application of the general DNI rule that inserts a K node, repeated in (88).

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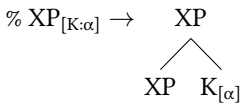
37. Broadwell (2006:310) notes that adjacent nominative-marked arguments are unacceptable in 'possessor raising' sentences like (87a), but are in fact *acceptable* in other dative-subject transitives like (i) (which he refers to as 'dative-raising' sentences).

(i) John-at iskali-yat im-ásha-h.
John-NOM money-NOM DAT-be.PL:NG-TNS
'John has money.' (Broadwell 2006:310)

The speakers I consulted, however, found no difference in acceptability between the two kinds of sentence. The unification of 'possessor raising' and 'dative raising' sentences, as subtypes of dative-subject transitives, is presented in chapter 5.

(88) **Elsewhere DNI rule that inserts K node**



Japanese's infamous *Double-o Constraint* (DoC), in which two NPs bearing the accusative marker *-o* may not be adjacent, is illustrated in (89) (for previous work on the Japanese DoC see Harada 1973, Kuroda 1992, Poser 2002, Hiraiwa 2010; for work on case OCP effects in other languages, see Mohanan 1994 on Hindi, Halpert 2009 on Uyghur).[38]

(89) **Japanese: Double-*o* Constraint**

*Ken-ga Naomi-**o** atama-**o** tatai-ta.
Ken-NOM Naomi-ACC head-ACC hit-PST
'Ken hit Naomi on the head.' (Hiraiwa 2010:729)

There are a number of similarities between the Japanese DoC and Choctaw's Case OCP effects. For one thing, the restriction fails to hold for adjacent NPs in different clauses. This is shown for the Japanese DoC in (90), and for the Choctaw OCP (at least with respect to nominative NPs) in (91).[39]

(90) **Japanese: Case OCP does not hold across clause boundaries**

a. Ken-ga yorugohan-**o** [terebi-**o** mi-nagara] tabe-ta.
Ken-NOM dinner-**ACC** [TV-**ACC** watch-while] eat-PST
'Ken had dinner while watching the TV.'

b. Ken-ga Naomi-$\mathbf{o}_i$ [t_i eigo-**o** hanas-er-u to] omotte-ir-u.
Ken-NOM Naom-**ACC** [English-**ACC** speak-can-PRES COMP] think-PROG-PRES
'Ken thinks that Naomi can speak English.' (Hiraiwa 2010:747-8)

(91) **Choctaw: Case OCP does not hold across clause boundaries**

a. *Jane at hattak at i̲holloh im ahwah.*
Jane-**at** [hattak-**at** i̲-hollo-h] im-ahwa-h
Jane-**NOM** man-**NOM** DAT-love-TNS DAT-seem-TNS
'Jane thinks that the man loves her' (F_06-15-17_85)

b. *Jane at kanat achokmahni kiyoh im ahwah.*
Jane-**at** [kán-**at** achokmahni-kiyo-h] im-ahwa-h
Jane-**NOM** someone-**NOM** like-not-TNS DAT-seem-TNS
'Jane thinks that noone likes her.' (L_06-15-17_68)

Both contraints can also generally be obviated in the same way. The ways of obviating the Japanese DoC include *pro*-dropping one of the arguments (92a), scrambling one of the arguments to the edge of the

38. Intriguingly, there is no equivalent prohibition on adjacent nominative-marked NPs in Japanese (Hiraiwa 2010:766).

39. It is hard to ascertain whether Choctaw's ban on adjacent oblique-marked NPs is relaxed over clause boundaries like the equivalent ban on adjacent nominative-marked NPs. It is hard to develop natural sentences in Choctaw that would place two oblique NPs adjacent to each other across a clause boundary.

clause (92b), omitting case-marking from one argument (92c), or separating the two arguments with an intervening adverb (92d) (see Hiraiwa 2010 for discussion of these and other strategies).

(92) **Japanese: ways of obviating the Case OCP**

a. *pro*-dropping an argument

Ken-ga *pro* atama-**o** tatai-ta.
Ken-NOM head-**ACC** hit-PST
'Ken hit (him) on the head.'

b. Moving one argument to the edge of the clause

Naomi-**o**$_i$ Ken-ga omoikkiri t_i atama-**o** tatai-ta.
Naomi-**ACC** Ken-NOM hard head-**ACC** hit-PST
'Ken hit Naomi hard on the head.'

c. Omitting case-marking from one of the arguments

(?)Naomi-**o** doko-**Ø** tatai-ta no?
Naomi-**ACC** where hit-PST Q
'Which part of Naomi's body did you hit?'

d. Separating the arguments with an adverb

Ken-ga Naomi-**o** omoikkiri atama-**o** tatai-ta.
Ken-NOM Naomi-**ACC** hard head-**ACC** hit-PST
'Ken hit Naomi hard on the head.' (Hiraiwa 2010:735-41)

All of these options have the same effect in Choctaw: (93) shows that the same four strategies successfully obviate nominative OCP violations, while (94) shows the same for oblique-marked NPs, at least for the (a-c) strategies.[40]

(93) **Choctaw: obviating the Case OCP with nominative arguments**

a. *pro*-dropping an argument

Katie iláp at im illitok.
Katie ilaap-at *pro* im-illi-tok[41]
Katie self-NOM DAT-die-PST
'Katie's (possession) died.' (L_06-19-17_35)

b. Moving one argument to the edge of the clause

Ná balíli yat ihikíyah, alikchi yat.
t_i naa balíili-yat i-hikíya-h, alíkchi-yat$_i$
car-NOM DAT-stand:NG-TNS doctor-NOM
'He has a car, the doctor.' (A_08-08-17_56)

c. Omitting case-marking from one of the arguments

Alikchi yat katos im illitok.
alíkchi-yat kátos-Ø im-illi-tok
doctor-NOM cat DAT-die-PST
'The doctor's cat died.' (L_06-15-17_116)

40. The intervening adverb strategy is omitted from the list in (94) because Choctaw appears not to permit adverbs to intervene between two objects—see §2.4.

41. Munro (1999:272) notes that null objects are ruled out in the equivalent constructions in Chickasaw. Examples like (93a) show that this restriction does not hold for Choctaw.

d. Separating the arguments with an adverb

Sa tíkchi yat ik hopáko kásh car hat i hikiyatok.

sa-tiikchi-**yat**	ik-hopáak-o-k-aash	carh-**at**	i-hikíya-tok
1SG.ABS-wife-**NOM**	IRR-long.time:LG-NEG-COMP-PREV	car-**NOM**	DAT-stand:NG-PST

'My wife had a car not long ago.' (A_06-09-17_37)

(94) **Choctaw: obviating the Case OCP with oblique arguments**

a. *pro*-dropping an argument

pro Ofi-**ya** im-aa-li-tok.
dog-OBL DAT-give-1SG.ERG-PST
I gave (it) to the dog.' (A_04-17-19, judgment)

b. Moving one argument to the edge of the clause

Ofi-**ya** t_i im-aa-li-tok foni-**ya**$_i$.
dog-OBL DAT-give-1SG.ERG-PST bone-OBL
'I gave it to the dog, the bone.' (A_04-17-19, judgment)

c. Omitting case-marking from one of the arguments

Foni ya ofi imálitok.

foni-**ya**	ofi-Ø	im-aa-li-tok
bone-OBL	dog	DAT-give-1SG.ERG-PST

'I gave the bone to the dog.' (A_04-17-19_82)

Another way of obviating Choctaw's Case OCP is with the use of different 'flavors' of case-markers (neutral vs. contrastive vs. special). For instance, there is no OCP violation if a NP marked with a special nominative morpheme is adjacent to one with a neutral nominative morpheme, as shown in (95), and the same goes for oblique-marked NPs, as shown in (96)

(95) **Case OCP for nominatives obviated by using different flavors of case-marker**

a. *Kíyo, miko at katos akósh im ittolatok.*

kiiyo,	miko-**at**	kátos-ak-**oosh**	im-ittola-tok
no	chief-**NOM**	cat-FOC-**NOM.SP**	DAT-fall-PST

'No, the chief dropped the CAT.' (C_06-14-17_62)

b. *Mary akósh ofi yat i kahmayah.*

Mary-ak-**oosh**	ofi-**yat**	i-kahmáya-h	
Mary-FOC-**NOM.SP**	dog-**NOM**	DAT-lie.PL:NG-TNS	

'It's Mary who has a lot of dogs.' (I_08-16-17_58)

(96) **Case OCP for obliques obviated by using different flavors of case-marker**

a. *Alla ya ilipa yo imálachih.*

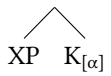
alla-**ya**	illípa-**yo**	im-aa-l-aachi-h	
child-**OBL**	food-**OBL.SP**	DAT-give-1SG.ERG-FUT-TNS	

'I'm going to give the FOOD to the kids.' (C_02-02-18_151)

b. *Ofi yo foni ya imálachih.*
ofi-**yo** foni-**ya** im-aa-l-aachi-h
dog-**OBL.SP** bone-**OBL** DAT-give-1SG.ERG-FUT-TNS
'I'm going to give the DOG the bone.' (C_02-02-18_153)

The upshot of the discussion so far is that the Choctaw OCP, like the Japanese DoC, is sensitive both to linear adjacency and abstract syntactic structure. It is sensitive to linear adjacency in that, in order to trigger unacceptability, the two offending case-marked NPs must be adjacent and surface-identical (being different realizations of the same abstract [K] feature does not count), but it is sensitive to abstract structure in that it does not hold over clause boundaries. To account for these properties, I propose that there is a constraint on the application of the general, optional K-inserting DNI rule. Specifically, I propose that the application of the rule in (97a) is subject to the constraint in (97b), which blocks two adjacent XPs from ending in the same case morpheme.

(97) **Elsewhere K-inserting DNI rule is restricted by OCP constraint**

a. % $XP_{[K:\alpha]} \rightarrow$ 

b. *[... $K_{[\alpha]}$] [... $K_{[\alpha]}$]

One aspect of this analysis worth dwelling on is the claim that the constraint in (97b) only affects the application of the *optional* K-insertion rule in (97a), and does not affect any of the other obligatory K-insertion rules established in §6.8. We know this to be the case on the basis of two pieces of evidence.

Firstly, when two NPs with the same [K] value are adjacent, and only one is subject to an obligatory K-insertion rule, the other is forced to go unmarked for case. There is no option to instead 'suppress' case-marking on the obligatorily-marked NP. This is illustrated with the examples in (98-99). In (98a), the subject is obligatorily case-marked as the highest nominative NP in its clause (see §6.8.3), so nominative-marking cannot be inserted on the object. The alternative in (98b), in which the subject is unmarked while the object is marked, is banned. Similiarly, in (99a) the object with the determiner must be case-marked as oblique (§6.8.1), meaning that the other object cannot carry the same case-marker. Failing to case-mark the object with the determiner and marking the determinerless object instead, as in (99b), is banned.

(98) **Case OCP regulates only *optional* DNI: obligatory case-marking on subject is unaffected**

a. Hopóoni-**yat** akakoshi-**(*yat)** im-alwasha-tok.
cook.NMLZ-**NOM** egg-**(*NOM)** DAT-fry.NACT-PST
'The chef had the egg fried.' (A_02-06-18a_88)

b. *Hopóoni-Ø akakoshi-**yat** im-alwasha-tok.
cook.NMLZ egg-**NOM** DAT-fry.NACT-PST
('The chef had the egg fried.') (A_02-06-18, judgment)

(99) **Case OCP regulates only *optional* DNI: obligatory case-marking on demonstrative is unaffected**

a. Tóowa lawa-m-**a** alla-**(*ya)** im-aa-l-aachi-h.
ball many-DEM-OBL child-(*OBL) DAT-give-1SG.ERG-FUT-TNS
'I'm going to give the kid loads of balls.' (C_02-05-18_99)

b. *Tóowa lawa-m-(a/Ø) alla-**ya** im-aa-l-aachi-h.
ball many-DEM child-OBL DAT-give-1SG.ERG-FUT-TNS
('I'm going to give the kid loads of balls.') (C_02-05-18, judgment)

In this way, we see that the Case OCP constraint only regulates the *optional* DNI rule, but cannot prevent the insertion of a K node where it is mandatory.

Further evidence for this claim comes from examples like (100), in which two adjacent NPs are obligatorily case-marked. While these examples violate the Case OCP constraint, the constraint is powerless to stop obligatory K-insertion and these violations are tolerated.

(100) **Case OCP is overriden when adjacent NPs are obligatorily case-marked**

a. *Bill at chokka mat i tobatok.*
Bill-**at** chokka-m-**at** i-toba-tok
Bill-**NOM** house-DEM-**NOM** DAT-be.made-PST
'Bill had that house built.' (C_02-08-18_146)

b. *Tówa pa alla ma imálachih.*
tóowa-p-**a** allaa-m-**a** im-aa-l-aachi-h
ball-DEM-OBL child-DEM-OBL DAT-give-1SG.ERG-FUT-TNS
'I will give this ball to that kid.' (C_02-05-18_98)

What is the status of a constraint like (97b) in the grammatical architecture? The first thing to note is that it has some conceptual similarity to previously-proposed 'identity' constraints on syntactic structure-building (e.g. Alexiadou and Anagnostopoulou 2001, 2007, Richards 2010, 2016, Alexiadou 2014, Branan 2018). These constraints ban too-similar elements from sharing some syntactic domain, and essentially function as syntax-internal filters on possible syntactic derivations.

However, the evidence presented here suggests that Choctaw's Case OCP effect cannot be stated as a syntactic constraint: it is defined over morphological forms, rather than syntactic features—un-spelled-out case features fail to trigger violations. Hiraiwa (2010), recognizing that the same property holds of the Japanese DoC, proposes to encode the Japanese DoC as a PF condition on possible syntactic outputs. However, even this is too strong for Choctaw's case OCP: the violability of the OCP effect in the event that the two adjacent arguments require K-insertion (cf. (100)) suggests that this constraint is unable to filter syntactic derivations.

The constraint must therefore be a fully morphological creature, incapable of constraining the syntax in any way. Constraints have not traditionally played a large role within Distributed Morphology—and I

refer the reader to Rolle 2020 for an overview of the historical role of contraints in DM—but nonetheless, a number of recent works within a DM framework have productively integrated constraints with DM's traditional ordered rules (e.g. Trommer 2001, Arregi and Nevins 2012, Rolle 2020, Dawson 2017, Foley 2017). Indeed, the way in which I propose that Choctaw's Case OCP constraint be integrated into the grammatical architecture is a less radical departure from ordered-rule models than many of these works. Arregi and Nevins, for instance, propose that constraints on morphological outputs can trigger particular 'repair' rules to apply in order that the morphological component does not generate such outputs, requiring lookahead. In contrast, the Choctaw case OCP constraint I propose simply *prevents* a rule from applying in particular environments, requiring no comparable lookahead.

Before moving on, it is important to note that just as with case OCP effects in Japanese (Hiraiwa 2010) and Hindi (Mohanan 1994), there is some inter- and intra-speaker variability in the acceptability of case OCP effects in Choctaw. (101) provides two examples where adjacent arguments carry the neutral nominative suffix *-at*, in violation of the OCP. Interestingly, the speaker of (101a) finds case OCP violations to be unacceptable in judgment tasks.[42]

(101) **Attested OCP-violating utterances**

a. *Imábachi yat katos at im illitok.*
imaabachi-yat kátos-at im-illi-tok
teacher-NOM cat-NOM DAT-die-PST
'The teacher's cat died.' (A_06-09-17_49)

b. *Alla mat iskali yat i kaníyatok.*
allaa-m-at iskali-yat i-kaniiya-tok
child-DEM-NOM money-NOM DAT-leave-PST
'That kid lost the money.' (L_06-15-17_85)

To summarize this section, Choctaw has a 'Case OCP' constraint which affects possible sequences of case-marked NPs, and operates very similarly to the Japanese *Double-o Constraint*. Choctaw's Case OCP blocks sequences of NPs that carry the same case-marker, *unless* both of those NPs require case-marking independently (either by being the subject of the clause or having a determiner). I have proposed that the Case OCP is constraint, given in (97b), which restricts the optional DNI rule in (97a). However, it is *unable* to restrict any of the other, more-specific DNI rules introduced in §6.8.

42. A number of speakers, older and younger, remarked that sequences of nominative markers sound 'old-style'. It could be that the case OCP is a relatively recent development in Mississippi Choctaw. This is supported by the fact that the restriction does *not* hold in Chickasaw (Munro and Gordon 1982, Broadwell 2006:305).

6.10 Conclusion and implications

In this chapter, I have shown how many of the complexities of Choctaw's nominal case system can be accounted for using a two-stage model. First, during the case-assignment stage of the morphological derivation, certain NPs have their case feature ([K]) valued with nominative ([NOM]) and others do not. Then, during the Dissociated Node Insertion (DNI) stage, NPs either have their case features realized, via insertion of a K node, or they do not. This allows us to account for the fact that that the nominative vs. oblique dimension of case-marking seems to be determined according to different rules from the marked vs. unmarked dimension of case-marking.

Regarding the distribution of nominative case (a [NOM] value of a [K] feature), we have seen that it can be modelled with the same technology that was employed in chapters 4 and 5 to account for the distribution of [ERG] and [DAT] features: namely, case-assignment from a functional head. For [ERG], the assigning head is Voice; for [DAT], the assigning heads are Appl and v (and within the nominal domain, Poss and n, cf. §2.6.1); and for [NOM], the assigning head is, for now, Nom—a placeholder functional head that I hope to be able to identify with an independently-motivated head in future work. A special property of Nom, which differentiates it from the other case-assigning functional heads in Choctaw, is that in certain syntactic configurations it can assign case more than once, to multiple arguments. It optionally assigns [NOM] twice in dative-subject transitives (always to the dative subject and optionally to the object), and it obligatorily assigns [NOM] twice when there is a possessor-topic. The counterpart to nominative—oblique—was argued to simply be the realization of case ([K]) features that do *not* have a [NOM] value; that is, an 'elsewhere' case (§6.5).

Regarding the realization of the case ([K]) feature, I proposed in §6.7 that case suffixes on nominals are exponents of K terminals: nominative suffixes are the exponent of $K_{[NOM]}$, and oblique suffixes are the elsewhere exponent of K. The variability in Choctaw case-*realization* is then a consequence of which [K] features get realized as K terminals. I proposed that there is a series of DNI rules that inserts the K node atop the extended projection of the NP with the [K] feature. The basic DNI rule is *optional*: that is, all else being equal, the K node may or may not be inserted. Then, there are several *obligatory* DNI rules that apply in more-specified environments: when the NP is headed by a demonstrative, when the NP undergoes A'-movement, and when the NP is the subject (§6.8). Finally, the application of the optional DNI rule is constrained by a case OCP constraint (§6.9), which resembles case OCP constraints documented in several other languages but whose true nature is still a bit elusive.

This chapter has four appendices. §6.11 provides a description of the 'special' case-markers, first discussed in §2.6.1, and suggests that they are also exponents of a K terminal, but with additional components

in their conditioning environment. §6.12 discusses the account of nominal case-marking proposed by Baker (2015), couched in a dependent case framework. I argue that there are several empirical and conceptual flaws with Baker's analysis (though the door is still wide open for a dependent case account of Choctaw nominal case marking). §6.13 discusses the phenomenon where the requirement for nominative case-marking on subjects is disappearing for some speakers of Mississippi Choctaw. Finally, §6.14 discusses two alternative analyses of optional case-marking on non-subjects—differential object marking (DOM) and pseudo noun incorporation (PNI)—and argues that the Choctaw pattern is not a good fit for either.

6.11 Appendix: The special case-markers

In §2.6.1 and §6.1, which laid out the general contours of Choctaw case-marking, I did not discuss the distribution of the special case-markers. That is the purpose of this appendix. Broadly, the special case-markers show up on NPs that have a focused, interrogative or quantificational component to their interpretation.

The examples in (102) show that special case-markers show up on focused NPs, including those marked with contrastive focus suffix *-ak* (102a), as well as those with no dedicated focus suffix, as in the answer-focus example in (102b). Note that when an NP carries the contrastive focus suffix *-ak*, as in (102a), it can *only* take a special case-marker.

(102) **Special case-markers**

a. *Mary akósh ofi im abíkah.*
Mary-ak-**oosh** ofi im-abiika-h
Mary-FOC-**NOM.SP** dog DAT-sick-TNS
'It's Mary whose dog is sick.' (L_08-07-17_12)

b. *Q: Katimma yo̲ oktoshah?*
kátimma-**yo̲** oktosha-h
where-**OBL.SP** snow-TNS
'Where is it snowing?' (E_06-09-17_38)

c. *A: Bogue Chitto ano̲ka yo̲ oktosha hiki̲yah.*
Bogue Chitto anó̲ka-**yo̲** oktosha hikí̲ya-h
Bogue Chitto inside:NG-**OBL.SP** snow stand:NG-TNS
'It's snowing in Bogue Chitto.' (E_06-09-17_39)

As first introduced in §2.7.1, certain NPs with quantificational force carry the special case-markers, as in (103) (note that special case-marking is *not* obligatory on all indefinites—see §2.7.1).

(103) **Quantificational NPs carry special case-markers**

a. *Bonnie at kanomma hohmako ánowah.*
Bonnie-at kánommah-ohmak-**o** aa-nowa-h[43]
Bonnie-NOM where-every-**OBL.SP** LOC-walk-TNS
'Bonnie walks everywhere.' (Broadwell 2006:106)

b. *allat im ahwah kanahósh i chokka miti ka.*
Alla-t im-ahwa-h kánah-**oosh** i-chokka míti-k-a
child-NOM DAT-seem-TNS someone-**NOM.SP** DAT-house come:NG-COMP-DS
'The kid thinks someone is coming to their house.' (A_08-19-17_118)

The special case-markers also show up on question words (104a), as well as syntactic constituents that *contain* question words (104b) (see Broadwell 2006:106 for discussion of a similar case-marking pattern with syntactic constituents that *contain* quantificational NPs).

(104) **Question words and NPs containing question words carry special case-markers**

a. *Hattak mat katahoo i toksalih?*
hattak-m-at kátah-**o** i-toksali-h
man-DEM-NOM who-OBL.SP DAT-work-TNS
'Who does that man work for?' (G_08-14-17_31)

b. *Kata i kanómi yo Bill at afámatok?*
[káta i-kanoomi-**yo**] Bill-at afaama-tok
who DAT-cousin-OBL.SP Bill-NOM meet-PST
'Whose cousin did Bill meet?' (F_07-05-16_107)

The fact that the special case-markers appear on focused, interrogative and some quantificational expressions is unlikely to be a coincidence—expressions with these interpretations frequently share morphological marking (Szabolcsi 2010, 2015), and I speculate that the appearance of the special forms is connected to A'-features.[44] For now, I propose that the special case-markers, like the neutral case-markers, are exponents of K terminals inserted by DNI in the morphological component of the derivation. However, the VI rules for the neutral markers in (47) (see §6.7.2) are superseded by the more-specific rules for the special markers in (105). These rules force the insertion of special rather than neutral markers in the presence of certain functional material. This functional material includes the Foc head (*-ak*), but also includes whatever functional material is found on the relevant quantificational and interrogative NPs too.

(105) **Vocabulary Insertion rules inserting special case-markers at K terminals**

a. $K_{[NOM]} \leftrightarrow$ *-oosh* / {Foc, … } __

b. $K \leftrightarrow$ *-oosh* / {Foc, … } __

The very-incomplete rules in (105) can hopefully be fleshed out in future work.

43. The suffix *-ohmak*, glossed as 'every', is likely decomposable into small components, including some verbal/clausal structure. See §2.7.2 for discussion of the clause-like properties of complex NPs.

44. I thank Hadas Kotek for discussion of this data.

6.12 Appendix: Against Baker 2015

Baker (2015) proposes an analysis of Choctaw nominal case-marking that makes use of a version of *dependent case theory*, extended from the version introduced by Marantz (1991/2000) (see also Yip et al. 1987, Bittner and Hale 1996). Baker (2015:93) proposes that the distribution of nominative case-marking in Choctaw can be explained by the rule in (106), which makes use of a 'negative c-command' condition. It essentially states that nominative ('marked' nominative) is assigned to arguments which are not c-commanded by any other argument within the same clause (for him, a TP).

(106) **Baker's (2015:93) case-assignment rules for Choctaw**

Assign NP_1 *marked nominative* if there is no other NP, NP_2, in the same TP as NP_1 such that NP_2 c-commands NP_1.
Otherwise NP is absolutive.

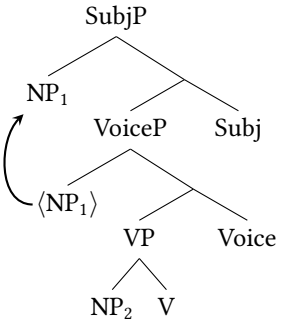
The rule in (106) can account for a basic property of Choctaw nominative—that it shows up on subjects—but falls short when it comes to certain non-canonical clause configurations, including those which Baker himself is intending to capture through the rule. His analysis also falls short, in that it conflates unmarked NPs with those NPs marked with oblique case.

Let's first consider the clauses where this rule works well: simple transitive and intransitive clauses with ERG or ABS subjects. The transitive sentence in (107a) (repeated from (7a)) has the structure in (107b). Assuming 'SubjP' here (cf. §2.3.1) is equivalent to Baker's TP, then only NP_1 will receive nominative case, by Baker's rule.

(107) **Structure of a simple transitive clause**

a. *Mary at alla shólitok.*
Mary-at alla shooli-tok
Mary-NOM child hug-PST
'Mary hugged the child.' (F_06-23-16_49)

b.

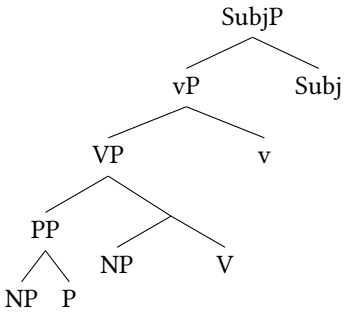


However, if we look at non-canonical clause types, the limitations of Baker's system become clear. Let's consider dative-subject transitives in more detail (I briefly discuss possessor-topic constructions at the end

of the section).

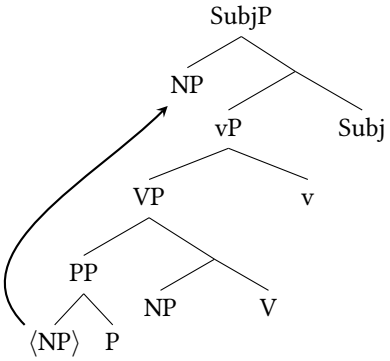
The crucial property of dative-subject transitives that sets them apart from other transitives is that the object can (but need not) be marked as nominative. Baker's account is as follows: the apparent 'dativehood' of the subject argument is in fact the reflex of it being encased in a PP headed by a phonologically null preposition, as in (108). This means that it does not actually c-command the object NP, and so they *both* receive nominative as per the rule in (106). He assumes that the PP containing the 'subject' does not generally move to the subject position, but the c-command relation between the two NPs would not be affected if it did.

(108) **Baker's (2015) structure for a dative-subject transitive**



He accounts for the optionality of nominative appearing on the object by allowing the PP-internal argument to optionally move out of its PP, to the subject position, as shown in (109). When this movement happens, the dative argument enters a c-command relation with the object, and thus the object no longer gets nominative per the rule in (106).

(109) **Baker's (2015) structure for a dative-subject transitive with a nominative-marked subject**



There are three main conceptual problems with Baker's analysis. Firstly, the 'null PPs' approach to argument structure has come under some criticism in recent work—see Deal (2019) in particular. Secondly, Baker assumes there is a one-to-one mapping between syntactic case features and their morphological realization. For him, an NP without a nominative case marker lacks a [NOM] feature. However, in §6.6 I

provided evidence that bare objects can still behave like they have a nominative case feature—that is, we need to distinguish syntactic case features from their morphological (non-)realization. Thirdly, and perhaps most seriously, the problem with any analysis in which the dative NP fails to asymmetrically c-command the non-dative NP is that we lose an account of their asymmetry—i.e. the fact that the dative argument behaves in various ways like a subject and the non-dative argument behaves in various ways like an object. This asymmetry, in almost any generative theory, should be modeled as *at least* involving an asymmetric c-command relation.

Baker does in fact make the case that the two arguments in dative-subject transitives *are* symmetrical. He cites the data in (110), from Broadwell (2006), showing not only that case-marking can be omitted on the non-dative object, as in (110a), but *also* that case can be omitted from the dative subject too, as in (110b).

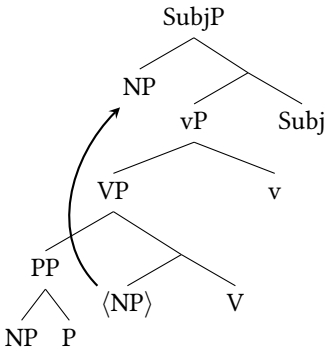
(110) **Allegedly: dative can be omitted on either argument of dative-subject transitive**

a. John-at skali im-á̲sha-.h
John-NOM money DAT-be.PL:NG-TNS
'John has money.'

b. John skali-yat im-á̲sha-h.
John money-NOM DAT-be.PL:NG-TNS
'John has money.' (Broadwell 2006:342)

The case-marking pattern in (110b), he argues, may appear because the non-dative argument—the theme *skali*—is just as eligible to raise to the subject position as the dative argument, as there is no c-command relation between them. The derivation of a clause like (110b) is shown in (111) (the dative argument would have to subsequently be topicalized in order to derive the given word order).

(111) **Baker's (2015) structure for a dative-subject transitive with a nominative-marked object**



There are two necessary responses here. The first is that the sentence in (110b) was not judged to be acceptable by any of the speakers I consulted. Case-marking the non-dative (object) argument and leaving the dative (subject) argument unmarked is *not* something that speakers would regularly do.

The second response is that, to the extent that the judgments in (110) hold up, it represents a single,

unusual instance of symmetry between the arguments. Taking a broader view of dative-subject transitives, the arguments display a lot of asymmetries, with all of them pointing to an analysis in which the dative argument is structurally higher than the non-dative argument. Here are just a few of them.

Firstly, the dative argument by default will linearly precede the non-dative argument, as in both examples in (110). Baker's claim that the dative argument in (110b) is an object that undergoes topicalization is unlikely to be correct, since, as shown in §2.3.4 and §6.8.2, topicalization generally forces an argument to be case-marked, yet the dative argument in (110b) is not case-marked.

Secondly, only the dative argument can be the addressee of an imperative, as shown in (112) (addressee-subjects of affirmative imperatives trigger the default/3rd-person DAT clitics).

(112) **Dative-subject transitives: only dative argument can be addressee of imperative**

a. *pro*$_{\text{IMP}}$ M-a̲ im-ihaksi-h!
DEM-OBL DAT-forget-TNS
'Forget it!' (B_04-15-19, judgment)

b. #Ohooyo-m-at *pro*$_{\text{IMP}}$ im-ihaksi-h.
woman-DEM-NOM DAT-forget-TNS
(intended: 'May that woman forget you!')
actual: 'That woman forgot it.' (B_04-15-19, judgment)

Thirdly, reflexivization can only target the non-dative argument, as in (113).

(113) **Dative-subject transitives: only non-dative argument can be reflexivized**

a. *Ili am ihaksitok.*
%ili-am-ihaksi-tok[45]
REFL-1SG.DAT-forget-PST
'I forgot myself.' (C_06-14-17_98)

b. *Sa-ili-ihaksi-tok.
1SG.ABS-REFL-forget-PST
('I forgot myself.') (C_06-14-17, judgment)

Fourthly, the two arguments exhibit a binding asymmetry. An R-expression that serves as the possessor of the dative argument may be coreferential with the non-dative argument, as in (114a), but the reverse does not hold: an R-expression that serves as the possessor of the non-dative argument may *not* be coreferential with the dative argument, as in (114b).[46]

45. Not all speakers accept the REFL-DAT clitic cluster in (113a).

46. The linear positions of the *pro* arguments in (114) are where they would be if they were untopicalized full NPs. It is not possible, or at least not easy, to fix the positions of the bound pronouns, since Choctaw lacks overt 3rd-person pronouns.

(114) **Dative-subject transitives: binding asymmetry**

a. Possessor of dative argument can corefer with non-dative argument

[Mary$_i$ im-alla alhiiha-t] [*pro*$_i$] im-ihaksi-tok
Mary DAT-child group-NOM DAT-forget-PST
'Mary$_i$'s children forgot her$_i$.' (L_08-14-17, judgment)

b. Possessor of non-dative argument *cannot* corefer with dative argument

#[*pro*$_i$] [Mary$_i$ im-alla alhiiha] im-ihaksi-tok.[47]
Mary DAT-child group DAT-forget-PST
('#She$_i$ forgot Mary$_i$'s children.') (L_08-14-17, judgment)

There are other arguments to be made for an asymmetry between the arguments, from the behavior of dative-subject transitives in the complement of *banna* 'want', and which argument can control switch-reference (cf. §2.3.2), but I set them aside here. Taken together, the evidence for an asymmetry between the arguments in dative-subject transitives seems overwhelming, and Baker (2015)'s analysis is too quick to deny this asymmetry on the basis of the somewhat suspect acceptability judgment in (110b).

Regarding the other kind of non-canonical case-marking in Choctaw—nominative on possessor-topics, which sit above the subject position—Baker (2015:ch.3) proposes a separate account.[48] Essentially, the idea is that the rule in (106) applies twice: once to the possessed NP, before possessor has moved out, and once again following extraction of the possessor. Thus both NPs end up with nominative case. This account is beset by the same problem as his account of other multiple-nominative constructions: it cannot account for why nominative is obligatory on the possessor-topic, but optional on the (lower) subject. It also adds unanswered questions about when, and to what, the nominative-assignment rules applies. For instance, it needs to be prevented from assigning nominative to possessors that are subextracted from objects, and similarly it needs to be prevented from being assigned to themes before an external argument is merged.

Finally, it is worth stating that my claim is *not* that a dependent case analysis is unworkable for Choctaw—just that Baker's analysis does not have any advantages over the account I propose in §6.4, and has some disadvantages too. It would doubtless be possible to remove the assumptions about null PPs from Baker's analysis, and instead add some caveat about the treatment of NPs that have been assigned a [DAT] feature (a possible model is provided by Levin 2017). However, I do not explore this possibility here.

47. Note that the object in (114b) is not marked for case. This forces it to be interpreted as the object, since subjects cannot generally go unmarked for case. If it had a nominative case-marker, it would then become string-identical to (114a), and the test wouldn't work.

48. His account is in fact intended to account for all instances of 'possessor raising', but he follows Broadwell (2006) in not making a distinction between the applicative-based kind of external possession (see chapter 5), and the external possession that better fits the description of 'possessor raising' (§5.8).

6.13 Appendix: Optional nominative on the subject of full clauses

In most existing work on Choctaw, nominative-marking on the subject is described as being 'obligatory'. But even then, various authors offer caveats to this claim. Ulrich (1986:16) states "[t]he subject marker is obligatory, *or nearly so*, on overt subject noun phrases in simple sentences" (emphasis mine). Gordon and Munro (2017:3) note that "[i]t is also sometimes possible to leave subjects of main clauses unmarked for case in Choctaw," offering the example in (115).

(115) Ofi-ma sa-kobli-tok.
dog-that 1SG.ABS-bite-PST
'That dog bit me.' (Gordon and Munro 2017:3)

Broadwell (1990:186) is more specific about when nominative-marking may be omitted, saying "[o]ccasionally intransitive subjects are used without case-marking […] Such examples are confined to verbs of location" (though note that this description is too restrictive, since the example in (115) features a nominativeless transitive subject). He provides the example in (116).

(116) Issi bookoshi á̲tta-hlik.
deer creek be.SG:NG-certain
'The deer is at the creek.' (Broadwell 1990:186)

Impressionistically, it seems that omission of nominative case-marking is a change in progress, where younger speakers of Mississippi Choctaw do it a lot more than older speakers. (117) provides some examples where overt subjects of main clauses lack nominative case-marking.

(117) **Attested utterances with caseless subjects**

a. *Am afo ichch̲okash achokma kiyoh.*
am-aafo ichch̲okash-**Ø** achokma-kiyo-h
1SG.DAT-grandfather heart good-not-TNS
'My grandfather's heart isn't good.' (E_06-19-17_59)

b. *Paláma moshólih, chokka an̲oka ma̲.*
paláama-**Ø** moshooli-h, chokka anó̲ka-m-a̲
light.NMZ douse.NACT-TNS house inside:NG-DEM-OBL
'The lights are off inside the house.' (G_08-09-17_2)

c. *Katos okfochósh kopólih.*
kátos-**Ø** ókfochoosh kopooli-h
cat duck bite-TNS
'The cat bit the duck.' (N_06-01-17_135)

From these examples, and that in (115), it is clear that the restrictions Broadwell mentions—that nominative-marking may only be omitted on intransitive subjects of verbs of location—do not hold for the speakers I consulted. Nonetheless, I believe that omission of nominative-marking is indeed more *common* with intran-

sitive than transitive subjects. There are a couple of other relevant points about nominative-omission.

For one thing, the same speakers who would offer nominativeless subjects would still, sometimes, reject them in judgment tasks. For another thing, the increasing omission of nominative-marking seems to be related to two other ongoing changes in Choctaw. Firstly, it is happening hand-in-hand with a change in the switch-reference system, which I document in §2.7.3. I found that younger speakers would increasingly use different-subject marking in places where we would expect to see same-subject marking, though same-subject marking remains an option. Secondly, it also happening hand-in-hand with a phonological or phonetic change, where word-final /t/ is increasingly being realized as a glottal stop. This means that the phonetic salience of the neutral nominative suffix *-(a)t* is reduced, especially when it appears in its *-t* variant, which is possible after NPs that end in a vowel. These three ongoing changes—in the case system, in the switch-reference system, and in the phonology—are likely causally connected in some way. This topic deserves more rigorous investigation.

6.14 Appendix: Alternative analyses of optional case-marking on objects

In this chapter, I have proposed that the optionality of case-marking on objects is entirely divorced from the presence vs. absence of certain case values. In this appendix, I consider two appealing alternative analyses of optional case-marking, which would locate it in the syntax proper: §6.14.1 discusses the possibility that Choctaw exhibits *Differential Object Marking*, and §6.14.2 discusses (pseudo) noun incorporation. I show that optional case-marking on Choctaw objects is unlikely to be a result of either of these phenomena.

6.14.1 Differential Object Marking

Choctaw's case-marking pattern has interesting similarities to the cross-linguistic family of case-marking patterns known as *Differential Object Marking* (DOM), but is fundamentally different in several ways.

DOM is a cross-linguistically attested asymmetry between different kinds of objects (on which see Comrie 1979, 1989, Bossong 1991, Enç 1991, Aissen 2003, Kalin 2018, van Urk 2018, among many others). In languages with DOM, one class of objects—for instance, definite objects, specific objects or animate objects—must be case-marked. Objects with the opposite property—indefinites, non-specifics, inanimates, etc—go unmarked for case. By way of illustration, definiteness-based DOM in Hebrew is shown in (118), and specificity-based DOM in Turkish is shown in (119).

(118) **Hebrew: differential object marking by definiteness**

a. Ha-seret her'a 'et-ha-milxama.
the-movie showed ACC-the-war
'The movie showed the war.'

b. Ha-seret her'a (*'et-)milxama.
the-movie showed (*ACC-)war
'The movie showed a war' (Aissen 2003:453)

(119) **Turkish: differential object marking by specificity**

a. Ali bir kitab-ı aldı.
Ali one book-ACC bought
'A book is such that Ali bought it.' (specific book)

b. Ali bir kitap aldı.
Ali one book bought
'Ali bought some book or other.' (non-specific book) (Enç 1991:5)

In a sense, the Choctaw pattern is quite like this: objects with certain properties must be case-marked (specifically, objects with determiners and objects that undergo A'-movement), while objects that lack those properties are not generally case-marked. And just as in DOM, this distinction is neutralized for subjects.

In other ways, however, the Choctaw system is different. Firstly, there is no optionality in typical DOM systems: indefinite Hebrew objects do not have the option of being case-marked (as shown in (118b)), and the case-marked Turkish object in (119a) does not have an alternative, indefinite interpretation. By contrast, Choctaw objects that lack the case-conditioning properties (demonstratives and A'-movement) may still be optionally marked for case (§6.7.1).

Secondly, it's not just objects in Choctaw that exhibit differential marking. As shown in §6.7.1, case-marking of possessors is sensitive the same considerations as objects: demonstratives and A'-movement. This is highly typologically unusual in a DOM system.[49]

The third property of Choctaw DOM that sets it apart from DOM in other languages is simply the unusual set of conditioning factors that induce obligatory case-marking. The examples in (120-124) show that none of the properties which we might expect to condition DOM based on typological data are relevant for DOM in Choctaw. Those properties are definiteness, specificity and animacy (120), number (121), affectedness (122), being a proper name (123), or being focused (124).

49. The force of this argument as an argument *against* a DOM analysis is lessened by the findings reported by Pereltsvaig and Lyutikova (2014), Lyutikova and Pereltsvaig (2015), from Tatar. They show that case-marked possessors share a set of properties with case-marked objects, and likewise unmarked possessors share a set of properties with unmarked objects: essentially a DOM system, extended to NP-internal possessors. Nonetheless, differential marking of possessors by the same criteria as objects is highly unusual.

(120) **Choctaw DOM is not definiteness/specificity/animacy-based**

a. Definite, specific, animate object
A nakfi ilipa i chopalitok.
a-nakfi illípa i-chopa-li-tok
1SG.DAT-brother food DAT-buy-1SG.ERG-PST
'I bought food for my brother.' (E_08-11-17_42)

b. Indefinite, non-specific, inanimate object
Áyittatóba il íyakma, sattiyápishi yat ná washóha ish áhina im ahwat tókalhlhih.
aayittatóoba il-iiya-km-a, sa-ttiyaapishi-yat **naa washóoha** ish-aahina im-ahwa
store 1PL.ERG-go-if-DS, 1SG.ABS-sibling-NOM **toy** take-MOD DAT-seem
tookálhlhi-h
be.always-TNS
'Whenever we were go the store, my sister always thinks she can get a toy.' (F_06-20-17a_83)

(121) **Choctaw DOM is not number-based**

a. Plural object (cf. plural-object verb *takoochi*)
Kanahósh ilhkólách hókma hohchifo takóchih.
kánah-oosh ilhkool-aachi-h-oo-km-a **hohchífo** takoochi-h
someone-NOM.SP go.PL-FUT-TNS-LINK-if-DS name hang.PL.OBJ-TNS
'Write down the names of whoever's going.' (C_01-30-18_11)

b. Singular object
Mary hat hohchifo im ihaksitok noshkobo issohma.
Mary-hat hohchífo im-ihaksi-tok noshkobo isso-hm-a.[50]
Mary-NOM name DAT-forget-PST head hit-when-DS
'Mary forgot her name when she hit her head.' (E_08-11-17_30)

(122) **Choctaw DOM is not affectedness-based**

a. Affected object
Ishitwashóha okpanílitok.
ishitwashóoha okpanii-li-tok
toy break.ACT-1SG.ERG-PST
'I broke the toy.' (A_06-08-17_44)

b. Unaffected object
A tík at hashtaposhik achokmahnih.
a-tiik-at **hashtaposhik** achokmahni-h
1SG.DAT-sister-NOM **butterfly** like-TNS
'My sister loves butterflies' (F_06-20-17a_24)

(123) **Choctaw DOM is not conditioned by proper name status**

Matthew i lomálih.
Matthew i-lomaa-li-h
Matthew DAT-hide-1SG.ERG-TNS
'I'm hiding from Matthew.' (A_02-08-18_37)

50. Note that in the variety of this younger speaker, a different-subject marker is used where older speakers would use a same-subject marker—see (117-118) in §2.7.3.

(124) **Choctaw DOM is not conditioned by focus**

Bashpo yamm<u>a</u> ishih, hikm<u>a</u> anáto pak ishilách<u>i</u>h.

bashpo	yamm-<u>a</u>	ishi-h,	hi-km-<u>a</u>	an-aato	**p-ak**	ishi-l-aach<u>i</u>-h
knife	DEM-OBL	take-TNS	do.so-if-DS	I-NOM.CONTR	**DEM-FOC**	take-1SG.ERG-FUT-TNS

'Take that knife, I will take this one.' (B_06-20-17_20)

Instead, the properties that *do* force case-realization on Choctaw NPs are highly atypical and, at least in the case of A'-movement, have not previously been attested elsewhere (to my knowledge).

6.14.2 (Pseudo) noun incorporation

In various languages, nominals can go unmarked for case when they are adjacent to the verb. Since Massam (2001) this phenomenon has been generally termed *pseudo noun incorporation* (PNI). A simple contrast from Sakha, an SOV language, is shown in (125): an object NP adjacent to the verb is caseless, an object NP that is separated from the verb bears case-marking.[51]

(125) **Pseudo noun incorporation in Sakha: case-marking determined by adjacency to verb**

a. Masha **salamaat-*(y)** türgennik sie-te.
Masha.NOM porridge-*(ACC) quickly eat-PST.3SG
'Masha ate the porridge quickly.'

b. Masha türgennik **salamaat-(#y)** sie-te.
Masha.NOM quickly porridge-(#ACC) eat-PST.3SG
'Masha ate porridge quickly.' (Baker 2014b:7-8)

The verb-adjacency restriction on PNI is fairly widespread (Levin 2015), but not universal (cf. Dayal 2011 on Hindi).

Pseudo-incoporated objects cross-linguistically tend to have an obligatory non-specific or indefinite interpretation (Dayal 2011), again exemplified by the pseudo-incorporated object in (125b). Although as with the verb-adjacency property, this interpretative property does seem to be universal either (cf. Clemens 2019).

On the face of it, the fact that Choctaw objects may only remain caseless when they do not front to a pre-subject position (§6.8.2) makes a PNI analysis plausible. Indeed, Munro (1999:271) suggests that caseless objects in Chickasaw may be undergoing some kind of incorporation, though she does not flesh out this analysis (she suggests that it is prosodic in nature). So if we look at the two common (though not universal) properties of PNI outlined above—verb-adjacency and non-specific interpretation—what are the prospects for an analysis of Choctaw caseless objects as undergoing PNI? In short: not good.

51. Massam's original study was based on Niuean, but the VSO/VOS alternation and ergative case alignment found in that language introduce complications that are not relevant to the point being made here.

Taking verb-adjacency first, while it *is* true that objects fronted past the subject require case-marking while in-situ objects do not (cf. §2.3.4 and §6.8.2), caseless objects do *not* need to be adjacent to the verb which they are an argument of. Caseless objects may be separated from the verb by various adverbial particles (126a-b), by another object (which may itself be case-marked) (126c-d), or even by a full participial phrase (126e) (see §2.4 for further discussion of the Choctaw middle field).

(126) **Caseless objects need not be adjacent to the main verb**

a. *John at tali aká pilatok.*
John-at [**tali**] akaa pila-tok
John-NOM rock down throw-PST
'John threw down the rock.' (F_06-20-17a_71)

b. *Tachi okla at apatok.*
[**tachi**] okla=at=apa-tok
corn PL=come.and=eat-PST
'They came and ate corn.' (I_01-31-18_115)

c. *A katos iti aboyyachitok.*
[**a-kátos**] iti aboyya-chi-tok
1SG.DAT-cat tree climb-CAUS-PST
'She made my cat climb the tree.' (C_06-14-17_125)

d. *Sashki okkisa ya im akammilitok.*
[**sa-shki**] okkísa-ya im-akammi-li-tok
1SG.ABS-mother door-OBL DAT-close.ACT-1SG.ERG-PST
'I closed the door for my mother.' (D_10-13-18_47)

e. *Bashpo toshpat okla haloppachitok.*
[**bashpo**] toshpa-t okla=haloppa-chi-tok
knife be.quick-PTCP PL=sharp-CAUS-PST
'They sharpened the knife quickly.' (A_02-01-18_59)

f. *John at átoksali ishtishko sholit nowat iyah.*
John-at [**aatoksáli**] [ishtíshko shóli-t] nowa-t iya-h
John-NOM workplace cup carry:NG-PTCP walk-PTCP go-TNS
'John walked to work carrying a cup.' (A_01-30-18, judgments)

Therefore verb-adjacency is *not* a prerequisite for caselessness.[52]

What about indefinite or nonspecific interpretation? That does not seem to be relevant either. Caseless objects may have definite referents, such as the possessed NPs in (126c-d). They may also be proper names, as in (127).

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52. Choctaw caseless objects also fail to meet Levin's (2015) *N-adjacency* condition on PNI, which requires that NPs undergoing PNI have their head noun adjacent to the verb. The example in (i) shows an object NP with a postnominal modifier happily remaining caseless.

(i) *Talówa sipokni achokmáli kat himóna i shalilih.*
[talóowa sipókni] achokmaali-k-at himóona i-sháli-li-h
song old.NMZ like-COMP-SS new.NMZ DAT-exceed:NG-1SG.ERG-TNS
'I like old songs more than new ones.' (C_02-08-18_189)

(127) *Kana hat Michelle ápisa i kólih.*
kánah-at [**Michelle**] aapísa i-kooli-h
someone-NOM Michelle window DAT-smash.ACT-TNS
'Someone smashed Michelle's window.' (A_01-29-18b_82)

In sum, Choctaw caseless objects display neither of the properties commonly associated with pseudo-incorporated objects. This makes a PNI analysis implausible.

Chapter 7

Conclusions

In this dissertation, I have developed a detailed picture of the syntax, morphology and semantics of the lower part of the Choctaw clause—the VoiceP, in which syntax corresponding to the traditional idea of 'argument structure' is built. I have shown that various regularities in how Choctaw forms its verbs, interprets them, and relates them to arguments, can be understood in terms of the syntactic behavior of the root combined with a series of functional heads, supported by a flexible syntax-morphology mapping and an equally flexible syntax-semantic mapping.

This concluding chapter is structured as follows. §7.1 provides a summary of each of the preceding chapters. Sections 7.2 and 7.3 then discuss two broader theoretical implications that arise, taking the dissertation as whole. Firstly, I consider what the role of case (or 'Case') is in the model developed here. I conclude that it is a purely morphological device that supplies some information about the derivational history of arguments and the structures they inhabit, but which does *not* play a role in driving or constraining syntactic structure-building. Mechanisms like the Case Filter and Chomskyan Case-licensing, which put Case in the preconditions for Merging and Moving syntactic constituents, cannot be a part of the system. Then I look at the functions of functional heads in the model developed here. The theme I wish to impress to the reader is that the analysis proposed here is made possible by a pervasive *flexibility* in functional heads. They may be syntactically flexible, in the sense that they have no particular specifier requirement. They may also have flexible behavior at the interfaces: they show contextual *allomorphy*, contextual *allosemy*, and contextual *case-assignment*.

7.1 Summary of the thesis

After establishing the empirical scope and theoretical underpinnings of the dissertation in chapters 1 and 2, chapters 3-6 dealt in turn with argument-structure-related morphology in the verb complex (ch. 3), the distinction between ERG and ABS clitics (ch. 4), dative and applied arguments (ch. 5), and nominal case-marking (ch. 6). I narrate these chapters here.

Chapter 3 looked at argument-structural morphology within the Choctaw verb stem, focusing in particular on the alternation between active and non-active verbs, and on causatives. I proposed that the three main argument-structure-related suffixes in the verb stem—non-active *-a*, active *-li* and causative *-chi*—each expone one of three Voice heads, differentiated by whether they ban ('[-N]'), allow ('[ ]'), or require ('[+N]') a specifier. Each of these Voice heads has default and contextually-conditioned morphological exponents (in which I include case-assignment properties), and they each *also* have default and contextually-conditioned interpretations.

The chapter shows how two recent theoretical innovations, both oriented around giving functional heads more 'flexibility', can lead to a much more elegant analysis than would have otherwise been possible. The first innovation—the trivalent specifier-requirement system developed by Kastner (2016, 2020)—allows us to capture the fact that in Choctaw there appear to be *three* argument-structure-related morphemes (*a*, *-li*, *-chi*) participating in what is a mostly a two-part alternation (active vs. non-active). The second innovation—*contextual allosemy* at the LF interface—means that multiple possible meanings can be packed into a single functional head. This allows us to avoid a proliferation of otherwise-identical functional heads: for example, rather than having to posit two different non-active Voice heads, one for (lexical) passives and one for inchoatives, and *both with the same set of allomorphs*, we can instead simply posit one non-active Voice head with multiple possible allomorphs and multiple possible interpretations.

Both of these innovations are also extended in new directions. I show how the trivalent specifier-requirement system is *also* compatible with (parts of) a more traditional 'layering' approach to argument-structure alternations (e.g. Alexiadou et al. 2015). Specifically, I argue that Choctaw has structures with *two* stacked Voice heads (syntactic causatives), and structures with *no* Voice heads (property-denoting statives). And regarding contextual allosemy, I argue that not only is the Choctaw *non-active* Voice head interpreted in multiple ways—something that is familiar from much previous work on non-actives cross-linguistically, e.g. Alexiadou and Doron (2012)—but also that the Choctaw *active* Voice head is interpreted in multiple ways also (following work by Wood 2015). Additionally, I extend the contextual-conditioning approach to case-assignment, and I argue that Voice heads may deviate from their usual case-assignment behavior in the context of particular roots of functional heads. In this way I showcase the broad applicability of the

contextual-conditioning model, both in the domain of contextual allosemy and beyond.

Chapter 4 focused on the ERG-series and ABS-series argument-doubling clitics. I argued that arguments indexed by ERG clitics have their case feature valued as [ERG], while those that are indexed by ABS clitics lack this feature value. Typically, [ERG] is assigned from Voice to the external argument in Spec-VoiceP, explaining why it shows *almost* the distribution of inherent ergative. However, the main theoretical contribution of the chapter was to show that with a small but robust class of verbs, the argument that receives the [ERG] value seems to be an *internal* argument. To account for this I proposed that Voice, in the context of certain lexical and functional material, may assign an [ERG] value *downwards* into its c-command domain. The idea that the case-assignment properties of functional heads may vary according to their syntactic context is fairly novel, though not unprecedented, and is to be expected in a model where case-assignment is a purely morphological (and non-syntactic) property of functional heads.

This account also challenges several accounts of ergative (and active) morphosyntactic alignment in the generative mainstream. If it really is possible for an internal argument to bear an ergative case value, this is a problem for *inherent* theories of ergative case, which propose that ergative case is tightly locked to either the external-argument position (Spec-VoiceP), or to the thematic role(s) assigned there. And if this argument really does receive ergative in the absence of a clausemate argument, then it's a problem for dependent ergative case too (the main competitor to inherent ergative). In support of the account I propose—that ergative case is assigned downward from Voice to the internal argument—I show that this relation can be interrupted by an intervening dative argument in Spec-ApplP.

A further contribution concerns what I term an 'emergent ergative' pattern—that is, when just a few verbs or configurations appear to show a canonical (dependent) ergative alignment pattern. Choctaw has this—I call it *absolutive promotion* (and I show that it is *not* a PCC repair operation, as I had previously proposed in Tyler 2019a). I show that a number of languages with active alignment show a dependent ergative pattern in some part of their grammar, raising future lines of enquiry about the nature of ergative marking, if apparent dependent ergative configurations may exist within a mostly-active alignment system.

Chapter 5 looked at Choctaw's DAT-series clitics, and its applied arguments more generally. I argued that arguments indexed by DAT clitics have their case feature valued as [DAT], and that this case value can be assigned either by Appl or by v. The main empirical contribution of the chapter concerned what happens when dative and other applied arguments are added to *non-active* verbs. I show that applied arguments split into two camps with respect to their ability to become the subject of the clause. Some applied arguments, with a particular set of thematic roles, may become the subject of their clause when added to a non-active verb. By contrast, a different set of applied arguments, with a disjoint set of thematic roles, may *not* become the subject of their clause, and will always end up as the object of the clause even when added to a non-active

verb.

By way of analysis, I proposed that the difference between A-movable and A-immovable applied arguments is whether or not the argument is *licensed* by Appl, where licensing is a syntactic relation that holds between a functional head and an argument. Licensing may come across as a bit quixotic: is no other, more grounded analysis possible? I show that the difference between A-movable and A-immovable arguments is hard to reduce to differences in syntactic structure, differences in the verb hosting the applicative, or differences in case features/values. And given that the difference in A-movability correlates so cleanly with the two different sets of possible thematic roles, which are (by hypothesis) assigned by the Appl head itself, it makes sense to attribute the difference in the A-movability of the applied argument to some property of the Appl head itself. Licensing fulfils this purpose, though perhaps a neater analysis will supersede this one.

The chapter also highlights some cross-linguistic examples where the A-movability of an applied argument, as diagnosed by its (in)ability to become the subject of a passive, correlates with its thematic role, including examples from Swahili, Japanese and Central Alaskan Yupik. I show how such cases could be addressed using the model developed for Choctaw.

Finally, **chapter 6** considered case-marking on overt NPs. I argued firstly that nominative-marked NPs are distinguished from oblique NPs by having their case ([K]) feature valued as [NOM]—the nominative vs. oblique distinction cannot be reduced to grammatical function (e.g. subject vs. object). I buttressed the analysis by showing that oblique case-marking, which I argue to be the exponent of a [K] feature without a [NOM] value, has the distribution of an 'elsewhere' case, which cannot be consistently associated with any bit of syntactic structure. Secondly, I argued that an NP's case value (specifically, presence vs. absence of [NOM]) should be disentangled from its *realization*. Whether an argument's [K] case feature is exponed or not is orthogonal to whether it is valued with [NOM] or not. I showed that there are a series of morphosyntactic properties that can ban, allow, or mandate the exponence of the [K] feature, which are distinct from those properties which determine the distribution of the [NOM] value. Of particular interest, I noted that violable *constraints* have a role to play in regulating the exponence of [K].

7.2 Broader implication: what does case do?

Chapters 4, 5 and 6 argue that various contrasts within Choctaw's argument-marking systems should be analyzed in terms of the presence vs. absence of various *case* values. ERG clitics double arguments with an [ERG] value, DAT clitics double those arguments with a [DAT] value, and ABS clitics double those arguments that don't have an [ERG] or [DAT] value. Similarly, NOM case-marking can only show up on NPs with a [NOM] value, and OBL case-marking can only show up on NPs that *lack* a [NOM] value. Yet throughout the

analysis of Choctaw argument-marking system presented in this dissertation, these case values play no role in syntactic structure-building, nor in filtering out syntactic structures. They are purely *realizational*: they 'read off' the syntactic structure in the way that morphology does. This model has three interlinked theoretical consequences that I'd like to explore here: arguments can have *zero* case values (§7.2.1), they can have *multiple* case values (§7.2.2), and, as a consequence, the traditional 'Case Filter', and its corollary 'Case licensing', ought to be abandoned (or at least, they are not helpful analytical lenses for Choctaw) (§7.2.3).

7.2.1 Arguments with no case values

I have argued that some arguments can have no case values whatsoever—their [K] feature will be left unvalued. ABS object arguments and ABS possessor arguments are like this: they don't get [ERG] values from Voice, [DAT] values from Appl/v/Poss/n, or [NOM] values from Nom. (1) shows a 'caseless' object.

(1) **Canonical transitive object: no case values**

John at anáko sa pisatok.
John-at **an-aak-o** sa-písa-tok
John-NOM me-FOC-OBL.SP 1SG.ABS-see:NG-PST
'John saw ME.' (A_04-06-19_80)

An important part of this analysis is that NPs with no case value can still have a case *exponent*, in the form of an overt case-marker. This is because NPs without case values can still have their valueless [K] feature exponed. This is what I propose happens with OBL case-marking, like on the object in (1).[1] Furthermore, allowing some NPs to have no case at all also allows for a simple account of some case alternations, as shown by Preminger (2014), Kornfilt and Preminger (2015).

7.2.2 Arguments with multiple case values

A second consequence of the model here is that some arguments may have *multiple* case values. In Choctaw, I have proposed that dative subjects have both a [DAT] value (accounting for their DAT clitic), and a [NOM] value (accounting for their nominative case-marking). Similar, ergative subjects have both [ERG] and [NOM] values. Examples of each type of subject are given in (2).

1. Technically, oblique-marking is the exponent of [K] in the absence of a [NOM] value, so some oblique-marked NPs might still have a [DAT] value, which is exponed on a DAT clitic but goes unexponed on the NP itself.

(2) **NPs with multiple case values**

a. [ERG,NOM] subject

Chishnákósh ish balílitokǫ?
chishn-ak-oosh ish-baliili-tok-ǫ
you-FOC-NOM.SP 2SG.ERG-run-PST-Q
'Did YOU run?' (H_06-01-17_45)

b. [DAT,NOM] subject

Chishnakósh ofit chi mokófatokǫ?
chishn-ak-oosh ofi-t chi-mokoofa-tok-ǫ
you-FOC-NOM.SP dog-NOM 2SG.DAT-release.NACT-PST-Q
'Did YOU have the dog get away from you?' (A_10-18-18_43)

The idea that a single NP can host multiple case features or values has received a certain amount of attention in syntactic theory over the last few decades. Some of the motivation for the claim is theory-internal: Belletti and Rizzi (1988), Jónsson (1996), Burzio (2000) and Chomsky (2000:127), among others, have proposed that quirky dative case in languages such as Icelandic is composed of two case specifications, a 'theta-related' dative and an additional structural nominative. And case-stacking has allowed for a neat account of certain case-alternations (e.g. Béjar and Massam 1999, Baker and Vinokurova 2010, Pesetsky 2013). However, these theoretical models are buttressed significantly by the existence of *overt* case-stacking in some languages. A famous case is Korean, which allows either nominative or accusative case to be stacked on top of either dative or nominative case, provided that certain other morphosyntactic conditions are met (Gerdts and Youn 1988, Yoon 1996, 2004, Schütze 2001a, Levin 2017). Two examples are given in (3).[2]

(3) **Korean: case-stacking**

a. Kim-kyosunim-**kkeyse**-man-**i** ssuleci-si-ess-ta.
Kim-professor-**HON.NOM**-only-**NOM** faint-SH-PST-DEC
'Only Professor Kim fainted'

b. Swunhi-ka Yenghi-**hanthey-lul** chayk-ul cwuesse.
Swunhi-NOM Yenghi-**DAT-ACC** book-ACC gave
'Swunhi gave Yenghi the book.' (Levin 2017:448, 459)

Choctaw, of course, does *not* show overt case-stacking, but the morphological reflexes of both case values are both visible in the examples in (2)—the [NOM] value is reflected in the nominal case-marking system, and the [ERG] or [DAT] value in the clitic system.

It is also worth dwelling a moment longer on the possible distributions of case values, for those Choctaw NPs which bear multiple case values. One of the case stacks that we see in Choctaw is attested in at least one other language: NPs marked as both dative and nominative, as in (2b), are found in Korean too, as in

2. Another language with overt case-stacking is Amis (Chen 2018). Note that I exclude here the formally-similar phenomenon of *Suffixaufnahme*, where possessors get marked with both a possessor case (e.g. genitive) *and* with the case of the NP they are contained inside (Dench and Evans 1988, Plank 1995, Andrews 1996, Nordlinger 1998, Richards 2013).

(4).

(4) **Korean: nominative-on-dative case-stacking**

a. Predicative possession

Cheli-**hanthey-ka** ton-i isse.
Cheli-DAT-NOM money-NOM has
'Cheli has money.'

b. Subject-experiencer psych verb

Etten-salam-**hanthey-ka** Yenghi-ka coha.
some-person-DAT-NOM Yenghi-NOM likes
'Some person likes Yenghi.' (Levin 2017:448, 475)

Note also the *kinds* of predicates where nominative-on-dative subjects occur in Korean: they are transitive, and include predicative possession clauses and subject-experiencer psych verbs. We find dative subjects (i.e. NPs with [NOM,DAT] values) in the same kind of transitive clauses in Choctaw:

(5) **Choctaw: [NOM,DAT] subjects**

a. Predicative possession

Alikchi yat ofi i kahmayah.
alíkchi-yat ofi i-kahmáya-h
doctor-NOM dog DAT-lie.PL:NG-TNS
'The doctor has dogs.' (G_08-09-17_87)

b. Subject-experiencer psych verb

Ohooyo-m-at movie-p-a im-ahchiba-h.
woman-DEM-NOM movie-this-OBL DAT-tired-TNS
'The woman is bored of this movie.' (constructed example)

Although it is worth noting that dative subjects in Choctaw seem to occur in a wider range of syntactic environments that nominative-on-dative NPs in Korean. In particular, Choctaw has many intransitives that take dative subjects.

As a further intriguing comparison, in both Choctaw and Korean, dative-on-nominative subjects condition nominative case on their object. The examples in (4) show this for Korean, and the example in (2b) shows the same for Choctaw (note that overt case-marking is optional on objects in Choctaw, cf. chapter 6).

Choctaw's other attested case stack, by contrast, does *not* seem to be very common: that is, when a NP is simultaneously marked as both nominative and ergative (or whatever we wish to call the marking that goes with 'agents' in an active alignment system), as in (2a). This combination of case values is not, as far as I know, attested in any language which allows multiple morphemes to be stacked onto one NP. But Choctaw is not alone in having simultaneously a nominative-oblique alignment system and a split-intransitive alignment system (J. Baker 2018). *If* any of the other languages occupying Choctaw's typological cell—languages

with nominative-oblique case and split-intransitive agreement—require an analysis in which the agreement system needs to refer to case features (and cannot simply be 'read off' arguments' syntactic positions), *then* these languages will be promising candidates for nominative-ergative case-stacking.

7.2.3 Case-licensing and the Case Filter

We have seen that NPs may be equipped with *less* than one or *more* than one case value. This implies that the traditional 'Case Filter', which supposedly mandates that by the end of the derivation every NP should have just one case feature, is not real. Arguments do not have to be 'licensed' by being assigned case at any point in the syntactic derivation. And note that while I do invoke a 'licensing' relation between functional heads and arguments in chapter 5, the explanatory function of this licensing relation is to account for why different arguments behave differently with respect to A-movement, but I argue that this has nothing to do with *case* (or Case)—see Sheehan and Van der Wal (2018) for a model of nominal licensing that is entirely divorced from case/Case.

7.3 Broader implication: what do functional heads do?

One of the central questions in this dissertation was: what exactly do functional heads within the domain of argument structure do, both in the syntactic derivation and at the interfaces with morphology and semantics? I hope to have shown that functional heads are fundamentally flexible. They may be flexible within the syntactic derivation, by being underspecified as to whether or not they take a specifier, and they may be flexible at the interfaces with morphology and semantics. Here, I run down what the functions of Voice, Appl and $v/\sqrt{\text{ROOT}}$ are, in the syntax (§7.3.1), at the interface with semantics (§7.3.2), and at the interface with morphology (§7.3.3).

7.3.1 Functional heads in the syntax

Within the syntactic derivation, I have assumed, fairly standardly, that functional heads have labels, and selectional restrictions that refer to labels. These properties together determine which functional heads can merge into the syntactic structure and in what order. I also follow a common line of thought in which the root has broader 'selectional' powers than other syntactic heads, and has control not only over its most local functional head, but also over all phasemate functional heads. This allows us to explain why roots can determine which Voice heads they want to co-occur with with, despite the fact the Voice heads may be separated from the root by intervening v and Appl heads.

In addition to their labels and selectional properties, I argued in chapter 3 that functional heads have specifier requirements, which come in one of three flavors, following Kastner (2016, 2020) and Nie (2020). They may either force a specifier, ban a specifier or, crucially, remain ambivalent about the presence of a specifier. These specifier requirements are features of the functional heads, and are visible at the interfaces with morphology and semantics, so they may also determine the exponence or interpretation of those functional heads. The final function of functional heads within the syntactic derivation is to form *licensing* relations with arguments, an idea introduced in chapter 5. When an argument is licensed it is 'locked' or 'frozen' in place, and cannot undergo further A-movement. In this way, functional heads can exert some control over the onward syntactic trajectory of arguments they introduce. Licensing, as it is employed here, is distinct from the popular notion of *Case*-licensing, which does not feature in this thesis.

A taxonomy of the three argument-structure-related heads Voice (the home of external arguments), v (the home of internal arguments) and Appl (the home of applied arguments) is given in (6).

(6) **Argument-introducing heads and their licensing properties**

Head	**Licenses Spec?**
$\text{Voice}_{[\text{-N}]}$	(no Spec)
$\text{Voice}_{[\ ]}$	N
$\text{Voice}_{[\text{+N}]}$	N
Appl1	N
Appl2	Y
Appl_{COM}	Y
Appl_{LOC}	Y
$\text{Appl}_{\text{INSTR}}$	Y
Appl_{SUP}	Y
v	N

I have only considered the specifier-taking properties of Voice in any depth: I assume for present purposes that all Appl heads introduce a specifier, and I have not investigated the specifier-taking properties of v at all in this thesis.[3] The specifier requirements on Choctaw's Appl and v heads are ripe for further investigation.

Similarly, I have only considered the specifier-*licensing* properties of Appl. We must assume that all Voice heads fail to license Spec-VoiceP, since the external arguments, when highest in its clause, can always undergo A-movement to the subject position (§2.3.1). Similarly we must assume that v fails to license Spec-vP, as internal arguments can always happily become the subject of non-active verbs when they are highest in their clause. Perhaps the 'parochial' nature of the licensing analysis should give us pause, but I have nothing further to add here.

3. There is doubtless variation in the specifier requirements of v across roots. Such variation could be employed to account for the difference between unergative verbs (e.g. *dine*), transitive verbs (e.g. *devour*) and optionally-transitive verbs (e.g. *eat.*) but I have been unable to explore how this distinction works in Choctaw within this thesis.

Next, I discuss how these heads are semantically interpreted, how they are morphologically exponed, and what case-assignment relations they can form.

7.3.2 Functional heads at the LF interface

I have argued that functional heads have *contextually variable* mappings to morphological exponents and semantic interpretations. In this section I discuss the behavior of those functional heads related directly to argument structure at the mapping from syntax to interpretation.

Turning first to the interpretations of the three Voice heads, they are unified in their ability to introduce semantics related to an agent role—by hypothesis, Voice heads are the only functional heads capable of introducing agentive semantics. The three Voice heads *also* have the ability to not introduce any semantics related to thematic structure at all—i.e. to have *expletive* interpretations. The three Voice heads do not all introduce agent-related semantics in the same way, however. I argued in chapter 3 that Voice$_{[\text{-N}]}$ can introduce an existentially-bound agent role—that is, an implicit agent—while Voice$_{[\ ]}$ and Voice$_{[\text{+N}]}$ only introduce unsaturated agent roles, which must then be saturated by an NP merged into the syntactic structure. Voice$_{[\ ]}$ and Voice$_{[\text{+N}]}$ may *also* have the ability to assign a separate *causee* role when they are embedded under a Voice$_{[\text{+N}]}$ head in a syntactic causative—see §3.8.2 for discussion. See the table below, in (7), for a full list of the proposed interpretations of the functional heads introduced so far—importantly, note the prevalence of contextual allosemy.

What about the Appl heads? I argued in chapter 5 that these introduce a number of unsaturated thematic roles, which are then saturated by the NP merged in Spec-ApplP. See the list of interpretations in (7). Because many of the Appl heads are morphologically distinguished (by their overt exponent or case-assignment behavior) or syntactically distinguished (by whether or not they license the argument in Spec-ApplP), there is less allosemy here. Nonetheless, the two Appl heads with Ø exponents—Appl1 and Appl2—each have a couple of different allosemes.

The argument-introducing heads, their licensing behaviors, and their allosemes are shown in (7) (including causee-introducing allosemes). Note that I omit any mention of the *contexts* which condition the different allosemes to be inserted—see chapters 3 and 5 for discussion. I also omit the interpretations of v, where the internal argument lives.

(7) **Argument-introducing heads, their licensing properties and their interpretations**

Head	Licenses Spec?	Interpretations
$\text{Voice}_{\text{[-N]}}$	(no Spec)	$\lambda e.\exists x.\textsc{agent}(x, e)$
		Ø
$\text{Voice}_{\text{[ ]}}$	N	$\lambda x.\lambda e.\textsc{agent}(x, e)$
		$\lambda x.\lambda e.\textsc{causee}(x, e)$
		Ø
$\text{Voice}_{\text{[+N]}}$	N	$\lambda x.\lambda e.\textsc{agent}(x, e)$
		$\lambda x.\lambda e.\textsc{causee}(x, e)$
		Ø
Appl1	N	$\lambda x.\lambda e.\textsc{experiencer}(x, e)$
		$\lambda x.\lambda e.\textsc{engineer}(x, e)$
Appl2	Y	$\lambda x.\lambda e.\textsc{beneficiary}(x, e)$
		$\lambda x.\lambda e.\textsc{source}(x, e)$
Appl_{COM}	Y	$\lambda x.\lambda e.\textsc{comitative}(x, e)$
Appl_{LOC}	Y	$\lambda x.\lambda e.\textsc{location}(x, e)$
$\text{Appl}_{\text{INSTR}}$	Y	$\lambda x.\lambda e.\textsc{instrument}(x, e)$
Appl_{SUP}	Y	$\lambda x.\lambda e.\textsc{superessive}(x, e)$

I have been relatively silent in this thesis on the interpretation of roots and v. This is a very large topic that I have been unable to consider here—all LF derivations in this thesis start at the $[\sqrt{\textsc{root}}\ \text{v}]$ constituent or above, with the details of how v and the root actually combine left as a mystery. For discussion of the semantic content of categorizing heads like v see Panagiotidis (2014), and for the semantic content of roots themselves, see Coon (2019) and the articles in Alexiadou et al. (2014b).

7.3.3 Functional heads at the PF interface

In this section I discuss what functional heads do at the PF interface. Firstly, they must be supplied with morphological exponents, in a flexible, contextually-variable manner (I abstract away from some of the other morphological operations on functional heads, described in §1.3.4). Secondly, I have also argued that *case-assignment* takes place in the morphological component, and that the case-assignment properties of a functional head can also be altered by syntactic context, in a similarly flexible manner.

Turning first to their exponents, I have shown that the choice of which allomorph gets inserted at a particular functional head is conditioned by the syntactic material in the immediate environment of that head. For instance, in chapter 3 I showed that $\text{Voice}_{\text{[-N]}}$ may be realized as the suffix *-a*, the infix <l>, or both, with the choice of which allomorph to insert being determined by the root. And the conditioning relation works in the other direction too: Voice heads may manipulate the shape of the roots they occur with, often in idiosyncratic ways.

Turning now to the case-assignment properties of functional heads, I have proposed that these properties too are conditioned by the syntactic context which that head finds itself in. In chapter 4 I argued that

Voice$_{[\text{-N}]}$ may sometimes assign [ERG] to the argument in its complement, in the context of particular roots, and particular functional material. And in chapter 3 I argued that Voice$_{[\ ]}$ and Voice$_{[\text{+N}]}$ may exceptionally *fail* to assign [ERG] to their specifier, in the event that they are in the complement of a higher Voice$_{[\text{+N}]}$ head (i.e. in a syntactic causative).

The nearly-complete list of argument-structure-related functional heads considered in this thesis, along with their licensing behavior, their possible allosemes, their possible allomorphs, and their possible case-assignment behaviors, is provided in (8). The one head I omit is the Appl head responsible for introducing the obligatory ABS experiencer subject of optionally-transitive psych verbs, discussed primarily in chapter 4 (§4.4.2). Since this head is root-selected and does not assign dative case, it was not included in the discussion of datives and applicatives in chapter 5, and I have not really theorized it in this thesis.

(8) **Argument-introducing heads and their syntactic, semantic and morphological properties**

Head	**Licenses Spec?**	**Interpretations**	**Exponents**	**Case-assignment**
Voice$_{[\text{-N}]}$	(no Spec)	$\lambda e.\exists x.\textsc{agent}(x,e)$	*-a*	Ø
		Ø	*<l>*	[ERG]
Voice$_{[\ ]}$	N	$\lambda x.\lambda e.\textsc{agent}(x,e)$	*-li*	[ERG]
		$\lambda x.\lambda e.\textsc{causee}(x,e)$	Ø	Ø
		Ø		
Voice$_{[\text{+N}]}$	N	$\lambda x.\lambda e.\textsc{agent}(x,e)$	*-chi*	[ERG]
		$\lambda x.\lambda e.\textsc{causee}(x,e)$		Ø
		Ø		
Appl1	N	$\lambda x.\lambda e.\textsc{experiencer}(x,e)$	Ø	[DAT]
		$\lambda x.\lambda e.\textsc{engineer}(x,e)$		
Appl2	Y	$\lambda x.\lambda e.\textsc{beneficiary}(x,e)$	Ø	[DAT]
		$\lambda x.\lambda e.\textsc{source}(x,e)$		
Appl$_{\text{COM}}$	Y	$\lambda x.\lambda e.\textsc{comitative}(x,e)$	*ibaa-*	Ø
Appl$_{\text{INSTR}}$	Y	$\lambda x.\lambda e.\textsc{instrument}(x,e)$	*ish(i)t=*	Ø
Appl$_{\text{SUP}}$	Y	$\lambda x.\lambda e.\textsc{superessive}(x,e)$	*on-*	Ø
Appl$_{\text{LOC}}$	Y	$\lambda x.\lambda e.\textsc{location}(x,e)$	*aa-*	Ø
				[DAT]
v	N	?	Ø	Ø
		...		[DAT]

In this model, there is no way to consistently pair one particular allomorph of a functional head with a particular alloseme. When we see a one morphological exponent consistently line up with a particular interpretation, for a piece of functional morphology, we have two options. One option is that the pairing is accidental: the environments triggering the insertion of this particular allomorph happen to be the same as the environments triggering the insertion of the alloseme. The alternative is that we are really looking at a specialized functional head for which the allomorph is the *only* allomorph, and the alloseme the *only* alloseme. By forcing all form-meaning correspondence to be routed through syntactic heads, we get a model that is better able to handle many-to-many form-meaning correspondences, like that which we see, pervasively, in Choctaw argument structure.

7.4 Final thought

I have argued that argument structure in Choctaw is assembled in the syntax, with a degree of flexibility built into the syntactic derivation itself. When this structure arrives at the interfaces with semantics and morphology, we see a yet more flexibility: functional heads may be realized as various different LF fragments and morphological exponents, depending on their surrounding context, and their case-assignment behavior (which I assume also takes place at the interface with morphology) is similarly dependent on context. I hope that researchers of argument structure and researchers of Muskogean languages will find some of the ideas and generalizations presented here interesting, and will challenge them or build off them in their own work.

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