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Case and agreement as contextually manipulable properties of functional heads[1]

MATTHEW TYLER

University of Cambridge

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Some recent work has argued that agreement and case-assignment dependencies between a functional head and a nearby NP are not part of the syntactic derivation proper, but take place in the postsyntactic, morphological component of the grammar. I argue that this view is correct, by showing that one of its largely unexplored predictions has real empirical payout. The prediction is that the dependency-forming properties of functional heads, being morphological in nature, are mutable, and may be conditioned by nearby roots and functional structure. I focus here on Voice heads in Choctaw, and my starting assumption is that, by default, Voice$_{[+N]}$ (the Voice head which introduces a specifier) agrees with its specifier (the external argument) and Voice$_{[-N]}$ (i.e. specifier-less Voice, found in unaccusatives) does not agree with anything. However, I propose that in some environments, Voice$_{[-N]}$ DOES launch a ϕ-probe, and it results in Voice$_{[-N]}$ agreeing with the internal argument. I refer to these configurations as 'low ergatives'. A small survey of previous work on case and agreement dependencies suggests (a) that the case-assignment properties of functional heads are mutable in the same way, and (b) that the reverse is attested – in some environments Voice$_{[+N]}$ FAILS to launch a ϕ-probe. This is consistent with a purely morphological model of agreement and case-assignment: just as the exponence and interpretation of functional heads can be conditioned by adjacent roots and functional material, so too can the dependency-forming properties of those heads be conditioned in the same way.

KEYWORDS: syntax, morphology, case, agreement, active alignment, Choctaw

[1] This article is based on chapter 4 of my 2020 dissertation. For the parts of this article that relate to the Choctaw language, I am grateful to the Mississippi Choctaw people who shared their language with me so generously between 2016 and 2019, in particular Chris Chickaway, Shayla Chickaway, Deborah Tubby and Carol Jim. I hope to have represented their contributions and judgements accurately. Thanks also to Jim Wood and Aaron Broadwell for comments and assistance at various stages of this work, as well as audiences at Cambridge SyntaxLab, UMass Amherst, CamCoS 8, WSCLA 24 and CLS 55. Thanks finally to three anonymous reviewers at the *Journal of Linguistics*, as well as three other reviewers at another journal who rejected this article but whose comments improved it immeasurably.

1. Introduction

In the tradition following Chomsky (1981), case-marking is analysed as the morphological consequence of a dependency between a syntactic terminal ('X^0') and a nearby syntactic phrase (usually an NP/DP, henceforth just 'NP'), in which X^0 transmits a feature or feature value to NP. For instance, in a nominative case-marking system T might transmit a nominative feature to some nearby NP. Agreement systems are analysed similarly: an X^0 must form a dependency with a nearby NP. But once the dependency is established, the direction of feature transmission is the reverse of case-assignment. In a nominative-aligned agreement system, T will seek out a nearby NP, and ϕ-features will be transmitted from the NP back to T. In this way, both case-marking and agreement dependencies are dependencies between a syntactic head (X^0) and an NP, and both kinds of dependency are established because of features of the X^0 – I refer to such features as DEPENDENCY-FORMING features.

A strand of recent work (Marantz 1991/2000, Bobaljik 2008 a.m.o.) argues that either one or both of these kinds of dependencies are established in the post-syntactic, morphological part of the derivation (aka the 'PF branch').[2] In this article I provide novel support for this position. I argue that the dependency-forming properties of X^0 – i.e. whether or not X^0 attempts to form case-assignment or agreement dependencies with NPs – may be altered by rules which make reference to the morphosyntactic context of X^0. In just the same way that the morphological EXPONENCE of a particular syntactic terminal is mutable and manipulable through contextual rules of allomorphy (and in some frameworks the same is true about terminals' semantic INTERPRETATION), so too can the dependency-forming properties of those terminals be altered in particular contexts. This kind of behaviour is readily explainable, perhaps even expected, if case/agreement dependencies between X^0s and NPs are formed in the morphological component of the derivation. But this behaviour is harder to account for if these dependencies can only be formed in the syntactic derivation, in which the properties of terminals are generally NOT assumed to be manipulable by rules that refer to context.

The empirical base of this paper comes from Choctaw (Muskogean), which shows ACTIVE alignment in its agreement system, illustrated in (1): agents are generally indexed on the verb with an ERG affix, and non-agents are indexed differently, with an ABS affix (or a DAT affix, not shown). As (1c) shows, a transitive verb can index both of its arguments.[3]

[2] While this work is often couched in terms of a competing theory of case-assignment – DEPENDENT case theory, where case features are calculated on the basis of NP-NP dependencies (Marantz 1991/2000) – there is no logical reason why an 'X^0-NP dependency' theory of case could not also be located in the postsyntax.

[3] Choctaw is written in a modified version of the practical orthography devised by Broadwell (2006). Doubled vowels are long, doubled consonants are geminate, underlined vowels are nasal, and the digraph <lh> represents [ɬ]. Pitch accent is marked with a ´ above the vowel. I follow Broadwell in marking pitch accent only where it is non-final on a verb or noun root. The addition

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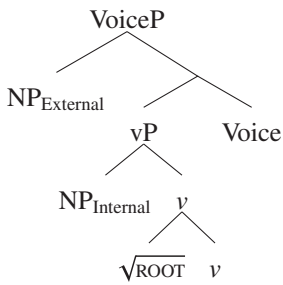
(1) a. Ii-hilha-tok.
1PL.ERG-dance-PST
'We danced.'
b. Chi-ttola-tok.
2SG.ABS-fall-PST
'You fell.'
c. Ii-chi-aapiila-tok.
1PL.ERG-2SG.ABS-help-PST
'We helped you.'

I assume that the distinction between an ERG-marked and an ABS-marked argument is related, at least in part, to the argument's syntactic position. Following Kratzer (1996) I assume that, cross-linguistically, external arguments are merged in Spec-VoiceP, where they receive a (proto-)agent thematic role, and internal arguments, by contrast, are merged in a position below Voice, where they are assigned a thematic role by the lexical verb (or at least by functional material closer to the root). The syntactic structure I assume for a simple transitive VoiceP is shown in (2) – all trees are head-final because this article is primarily concerned with Choctaw, a head-final language.

(2)



All that is needed to implement an active case or agreement system, then, is to have some way of ensuring that the choice of ERG vs ABS morphology tracks the external vs internal position of the argument. I propose that this should be implemented through the dependency-forming features of the Voice heads. On the one

of suffixes to verbs and nouns has complex effects on the placement of the pitch accent which are not well-understood, and, like Broadwell, I do not mark them here (see Katenkamp 2021 for a recent investigation). I diverge from Broadwell's notation in not marking word-final glottal stops, since their status as independent phonemes is unclear. Note also that vowel length in certain lexical items may vary depending on morphophonological context. This is due to a process of IAMBIC LENGTHENING in which odd-numbered short vowels in sequences of open syllables become long, thus neutralising the vowel length contrast in these positions (Nicklas 1974, Ulrich 1986). Following Broadwell, I represent this lengthening orthographically.

Glosses adhere to the Leipzig Glossing Rules, with the following additions and exceptions: ABS = absolutive; CONTR = contrastive; DS = different subject; INAN = inanimate; LG = l-grade; NG = n-grade; PC = paucal; Q = polar question particle; SS = same-subject; TNS = default tense.

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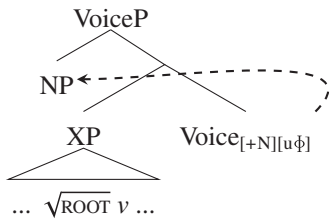
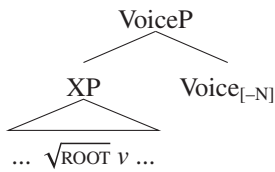
hand, there is $\text{Voice}_{[+N]}$ – the Voice head that introduces an NP (i.e. an external argument) in its specifier. In an active alignment system, $\text{Voice}_{[+N]}$ is equipped with a dependency-forming feature (i.e. a ϕ-probe or a case-assignment feature) that causes it to establish an agreement or case-assignment dependency with its specifier, as exemplified in (3). In Choctaw, a language with an active AGREEMENT system, this dependency-forming feature is a ϕ-probe, annotated as '[uϕ]'. The dashed arrow indicates the dependency that it forms. The ϕ-features that are copied from the NP onto Voice as a consequence of this dependency are then exponed as ERG agreement.

(3)



On the other hand, there is $\text{Voice}_{[-N]}$ – the Voice head that cannot introduce an NP in its specifier. $\text{Voice}_{[-N]}$ in Choctaw is NOT equipped with a [uϕ] feature, and thus no argument gets indexed by ERG agreement. This is schematised in (4).

(4)



Additionally, it appears that in Choctaw, internal arguments are targeted by a separate ϕ-probe, spelled out as ABS or DAT agreement – a more detailed analysis is provided in Section 2.1.

So far so typical: what is illuminating about Choctaw's agreement system, for the purposes of this article, are the EXCEPTIONS. In particular, I show that there are a number of instances in which an argument is indexed with ERG agreement, but nonetheless shows hallmarks of being an INTERNAL argument, rather than an external argument as expected. As a preview, some examples of the verbs in question are shown in (5).

(5) a. Ii-lawa-h.
1PL.ERG-be.many-TNS
'There are many of us.'
b. Ii-binohmáya-h.
1PL.ERG-sit.PL.NG-TNS
'We're sitting.'

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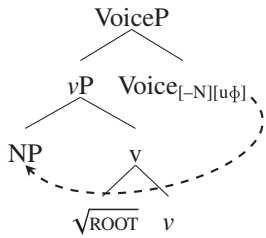
In this article I provide evidence that in these cases an agreement dependency is, exceptionally, established between specifier-less Voice (Voice$_{[-N]}$) and an internal-argument NP, as in (6).[4]

(6)



My proposal is that there is no 'special' Voice$_{[-N]}$ head merged in (6), which is different from the Voice$_{[-N]}$ head in (4). Rather, the typical morphological features of Voice$_{[-N]}$ may be MANIPULATED by particular rules that are sensitive to context, in just the way that other morphological properties may change in certain contexts. So in Choctaw, by default, Voice$_{[-N]}$ lacks a [uϕ] feature and so does not attempt to form a dependency. But, it may also be afflicted by the rule in (7): this rule states that, in the context of certain morphosyntactic items (some roots and functional heads, to be determined), Voice$_{[-N]}$ sprouts a [uϕ] feature (a ϕ-probe). This rule can be thought of as a DISSOCIATED FEATURE INSERTION rule, in the sense of Embick & Noyer (2007).

(7) $\text{Voice}_{[-N]} \rightarrow \text{Voice}_{[-N][u\phi]}$ / { $\sqrt{\text{ROOT1}}$, $\sqrt{\text{ROOT2}}$, X^0, Y^0} __

Furthermore, through a short survey of recent work in case and agreement, I argue that Voice$_{[+N]}$ (the Voice head that introduces an external argument) is sometimes subject to a rule like (8) that does the reverse of (7): it REMOVES a dependency-forming feature. This can be considered, essentially, a morphological IMPOVERISHMENT rule.

(8) $\text{Voice}_{[+N][u\phi]} \rightarrow \text{Voice}_{[+N]}$ / { $\sqrt{\text{ROOT3}}$, $\sqrt{\text{ROOT4}}$, W^0, Z^0} __

This accounts for mismatches that go in other directions: external arguments that are treated by case/agreement as though they were internal arguments.

Thus both the case-assignment and agreement-seeking properties of functional heads, i.e. their dependency-forming properties, are subject to contextual manipulation by rule, and are not projected exceptionlessly from the lexicon. This behaviour receives a simple account if these dependencies are formed postsyntactically,

[4] I assume that the search space of a dependency-forming operation (agreement or case-assignment) triggered by a feature of X^0, consists of every node dominated by XP, also known as the M-COMMAND domain of X^0 – see Section 2.1. Therefore a NP in Spec-VoiceP is the highest argument in the search space of a dependency-forming operation triggered by a feature on Voice.

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and can be afflicted by 'standard' feature manipulation operations like insertion and impoverishment. It is harder to explain if these dependencies are part of the narrow syntactic derivation.

This article is organised as follows. Section 2 introduces Choctaw agreement and provides a basic syntactic analysis. Section 3 provides four tests for internal vs external argument status in Choctaw, other than agreement. Section 4 then applies these tests to three interesting classes of verbs, showing that their ERG-indexed subjects are underlyingly internal arguments. Section 5 fleshes out the analysis of these configurations – that they instantiate the LOW ERGATIVE structure in (6) – and discusses some precedents, including some involving case-assignment rather than agreement. Section 6 buttresses the analysis with two pieces of evidence that ERG-indexing, even in low ergative configurations, really does involve a relation between Voice and the argument. Section 7 then provides some cross-linguistic evidence for the existence of the reverse arrangement: when Voice does introduce an NP in its specifier, but exceptionally FAILS to form a dependency with it. Section 8 concludes.

2. Agreement in Choctaw

Choctaw is a Muskogean language indigenous to the southeastern United States, and is spoken today in Mississippi and Oklahoma. All data reported here comes from fieldwork with speakers who grew up and reside in Mississippi, unless otherwise noted. The language has fairly rigid SOV order, free argument drop and complex verbal morphology. A monoclausal transitive sentence with two overt arguments is given in (9).

(9) Alíkchi-yat alla-m-a masaali-ch-aachi-h-o?
doctor-NOM child-DEM-OBL heal-CAUS-FUT-TNS-Q
'Will the doctor cure that kid?'

This sentence shows that Choctaw NPs may be marked with nominative or oblique case. Overt subjects are obligatorily marked with nominative case. Case-marking on non-subjects is more complex, but some objects, such as *alla-m-a* 'that kid' in (9), are marked with oblique case.[5]

The focus of this article, however, is Choctaw's active agreement system, which is mismatched with the nominative-oblique case-marking system. Agreement affixes come in three classes, and the choice of which class to use with a particular argument is determined, broadly, by the thematic role of the argument. A table of agreement forms is provided in (10). The ERG, ABS, and DAT series are traditionally

[5] I follow Byington (1870), Nicklas (1974) and Tyler (2020) in using the term 'oblique' rather than 'accusative', owing the extensive range of syntactic environments in which this case-marker can appear, which goes beyond the traditional remit of 'accusative'.

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known as 'Class I', 'Class II', and 'Class III' respectively; the IRR (irrealis) series replaces the ERG class for negated and exhortative verbs, and is in complementary distribution with it.

(10)

	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-

Note that there are no 3rd-person ERG or ABS affixes, illustrated in (2). Following Ulrich (1986), I treat the 3rd-person DAT and IRR affixes as defaults rather than specifically 3rd-person, and so they are glossed here as 'DAT/IRR' (rather than '3.DAT/3.IRR').

Turning now to the distribution of the agreement forms, they exhibit an active alignment, also known as 'agentive', 'semantic', or 'split-S' alignment. Agents and initiators are indexed by ERG (=ergative) forms, as shown in (11).

(11) a. Ii-hilh-aachi-h.
1PL.ERG-dance-FUT-TNS
'We will dance.'
b. Akaka ii-lhiyohli-tok.
chicken 1PL.ERG-chase-PST
'We chased the chicken.'

Themes and experiencers tend be indexed by ABS (=absolutive) affixes, as in (12).

(12) a. Issoba-yat hapi-lhiyohli-tok.
horse-NOM 1PL.ABS-chase-PST
'The horse chased us.'
b. Hapi-ttola-tok.
1PL.ABS-fall-PST
'We fell.'
c. Ofi sa-nna-h.
dog 1SG.ABS-want-TNS
'I want a dog.'

And a heterogeneous class of arguments, including all applied oblique arguments, are indexed by DAT (=dative) affixes, as in (13).

(13) a. Mary-yat a-paya-tok.
Mary-NOM 1SG.DAT-call-PST

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'Mary called me.'

b. A-ponna-h.
1SG.DAT-be.skilled-TNS
'I'm skilled.'

c. Chi-holisso am-ittola-tok.
2SG.DAT-book 1SG.DAT-fall-PST
'I dropped your book.'

Verbs with multiple arguments may show multiple agreement markers, as in (14).

(14) a. Is-si-aapiil-aachi-h-o?
2SG.ERG-1SG.ABS-help-FUT-TNS-Q?
'Will you help me?'

b. Chi-paya-l-aachi-h.
2SG.DAT-call-1SG.ERG-FUT-TNS
'I will call you.'

c. I-sa-nokshoopa-h.
DAT-1SG.ABS-be.afraid-TNS
'I am afraid of them.'

The sentences in (12)–(14) show that choice of affix class does not correlate with grammatical role (i.e. subject vs object status): objects may be indexed by ABS affixes, as in (12a), or DAT affixes, as in (13a); and similarly subjects too may be indexed by ABS, as in (12b-c), or DAT affixes (13b-c). Straightforward evidence that grammatical role (reflected through case-marking) is not matched with choice of agreement marker comes from focused pronouns, which carry case-marking AND trigger agreement.[6] For example, (15a) shows an ABS affix *sa-* being used to index an oblique-marked object, and (15b) shows the same affix being used to index a nominative-marked subject.

(15) a. Issoba-yat an-aak-o sa-lhiyohli-tok.
horse-NOM me-FOC-OBL 1SG.ABS-chase-PST
'It was me that the horse chased.'

b. An-aak-oosh sa-ttola-tok.
me-FOC-NOM 1SG.ABS-fall-PST
'It was me that fell.'

Next, I provide a simple analysis of these phenomena, expanding on the analysis provided in the introduction.

[6] In fact, neither nominative nor oblique case-marking are straightforwardly associated with particular grammatical roles: Choctaw has nominative objects, and oblique case appears on NPs in various non-argument positions. In this way, we see a triple-dissociation between agreement, case, and grammatical role. Tyler (2020) investigates these issues in more detail.

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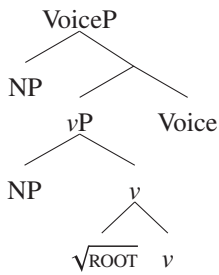
2.1. *Basic analysis*

We have seen that in Choctaw, the choice of agreement used to index an argument (ERG vs ABS vs DAT) is linked quite closely (though not without exception) to that argument's thematic role. Active alignment systems like Choctaw's fit neatly with theories that 'sever' certain kinds of argument from the verb root. Chomsky (1995) and Kratzer (1996) influentially proposed that external arguments – a class of arguments which bear agent or agent-like thematic roles – are merged as the specifier of a dedicated functional head *v* or Voice (I use 'Voice' here). By contrast the verb root and any internal arguments are merged within the complement of Voice. I also assume that the verb stem can be further decomposed into a root and a verbalising head *v* (Marantz 1997). (16) schematises the syntactic structure of a prototypical transitive VoiceP, containing an internal and an external argument.

(16)



Assuming a structure like this, the difference between ERG-indexing and ABS / DAT-indexing can be reduced, at least in part, to a difference in the syntactic position of the argument: arguments in the external argument position are ERG; arguments in one of the internal argument positions are ABS or DAT. In this way, the correlation between thematic role and choice of agreement affix falls out from the assumption that arguments get their thematic roles by virtue of being in particular syntactic positions.

In the introduction I sketched an implementation of this analysis in which the difference between an argument that is indexed by ERG agreement and one that is not is in whether or not that argument is targeted by the ϕ-probe on Voice, annotated as [uϕ].[7] Essentially, the Voice head that introduces a specifier (Voice$_{[+N]}$) launches a ϕ-probe, which subsequently establishes a dependency with the NP in Spec-VoiceP. The tree in (17), repeated from (3), illustrates this. Recall also that, in keeping with the findings of Bobaljik (2008), these agreement dependencies are established in the morphological branch of the derivation.[8]

[7] The table in (2) shows that 3rd-person arguments do not trigger overt ERG or ABS agreement. It is therefore possible that 3rd-person arguments are not targeted for agreement at all, and that ERG and ABS probes should be characterised as '[uPART]', for instance, as opposed to [uϕ]. I do not take a position on this here, since it does not affect the analysis in a clear way.

[8] I avoid the term AGREE, which is generally used to refer to a SYNTACTIC operation that creates agreement dependencies, also implicated in triggering syntactic movement (Chomsky 2000, 2001).

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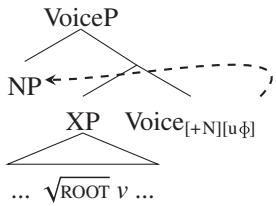
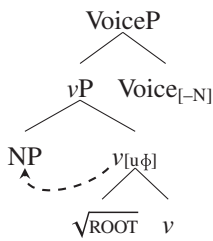
(17)

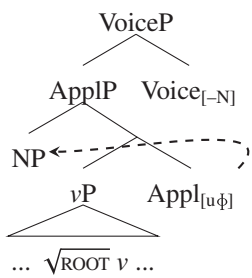


Conversely the Voice head that does not introduce a specifier ($\text{Voice}_{[-N]}$) lacks [uϕ] and does not launch a ϕ-probe. Any internal arguments, merged inside the complement of Voice, are then targeted only by probes other than Voice, and the morphological spellout of these probes corresponds to ABS or DAT agreement affixes. Specifically, I assume that ABS / DAT agreement is the spellout of a ϕ-probe on *v* or Appl. A diacritic is required to differentiate those ϕ-probes that spell out as ABS from those ϕ-probes that spell out as DAT: I differentiate *v* from *v*-DAT, and Appl from Appl-DAT, where they arise later in this article. The trees in (18) illustrate ϕ-agreement by *v* and Appl with internal arguments. For the rest of this article, I do not represent the dependency-forming features of *v*/Appl (i.e. the [uϕ] feature) except where it is directly relevant.[9]

(18) a.



b.



[9] The analysis of active alignment presented here is similar in spirit to that proposed by Baker & Bobaljik (2017). They propose that internal arguments are targeted by a probe between Voice and the verb root, while external arguments, being merged outside the c-command domain of this probe, can only be targeted by a separate probe, above Voice. Though note that Baker & Bobaljik's analysis is only concerned with active AGREEMENT systems because they deny the existence of 'true' active case-marking systems (a claim which J. Baker 2018 disputes).

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Setting aside for a moment the other functional heads in the extended projection of the verb, I have asserted that in Choctaw there is a 'link' between whether or not a Voice head introduces a specifier (i.e. whether it is [+N] or [–N]) and whether or not it has a ϕ-probe ([uϕ]): Voice$_{[+N]}$ has a ϕ-probe; Voice$_{[-N]}$ does not. This captures the observation that external arguments are generally indexed by ERG agreement and other arguments are not, and accordingly I propose that these are the 'default' behaviours of the two Voice heads in Choctaw. In the rest of this article, I discuss deviations from this default behaviour, and claim that these deviations should be attributed to some special rule.

Finally, throughout this section I have been assuming that heads can establish agreement dependencies with their specifiers (as in (18)), or with phrases that they c-command (as in (6)). Specifically, I assume that the search space of a dependency-forming feature (an agreement-seeking or case-assignment feature) on X^0 consists of every node dominated by XP, aka the M-COMMAND domain of X^0 (Chomsky 1986). So a dependency-forming feature on X^0 will first search Spec-XP, and then work down through X^0's c-command domain.

2.2. *Agreement markers or argument-doubling clitics?*

Tyler (2019a) proposes that Choctaw verb agreement is best characterised as clitic-doubling rather than (simple) ϕ-agreement. In his analysis, NPs are first assigned case by functional heads in the extended projection of the verb (*v*, Appl, Voice), and those case-bearing NPs then undergo clitic-doubling at clitic-hosting functional heads. NPs' case features are preserved on the clitics that double those NPs, and are realised ONLY on the clitics. The case features are not realised on the NPs themselves. Thus in Tyler's analysis, the distinction between arguments indexed by ERG, ABS or DAT agreement is that each of them has a different case feature (or no case feature at all). The differing assumptions of the two analyses are shown in (19).

(19)

	in an agreement analysis	in a clitic-doubling analysis
ERG	ϕ-probe on Voice	[ERG] assigned from Voice
ABS	ϕ-probe on Appl or *v*	–
DAT	ϕ-probe on Appl-DAT or *v*-DAT	[DAT] assigned from Appl or v

The clitic-doubling analysis is fairly inter-translatable with the agreement analysis employed here. In both analyses, Choctaw verb agreement is the morphological reflex of a dependency between a functional head (Voice, *v* or Appl) and a NP. However, the agreement analysis does not require us to posit any further syntactic or morphological machinery before spellout. By contrast, the clitic-doubling analysis requires us to posit an additional syntactic step in which the NPs are clitic-doubled at some clitic-hosting functional head.[10] Furthermore, in the

[10] The fact that clitic-doubling is a SYNTACTIC operation does not entail that case-assignment is also syntactic. Tyler (2020) proposes that arguments are clitic-doubled in the syntax, prior to

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clitic-doubling analysis, NPs must be capable of bearing more than one case feature: NPs must be able to bear one case feature that distinguishes whether they are indexed by ERG vs ABS vs DAT clitics, AND they must be able to bear another feature, which distinguishes whether they are marked as NOM vs OBL. However, the increased amount of technology in the clitic-doubling analysis does allow for simplification in another domain: the clitic-doubling analysis means that ABS-indexed arguments need not enter a relation with any particular functional head: they can be analysed as simply lacking a case feature.[11]

In Section 7, I will argue that agreement dependencies and case-assignment dependencies are fundamentally similar, in that they are postsyntactic dependencies established between functional heads and arguments, and they are both manipulable by morphological rules. Thus the broad conclusion of this article is not changed by whether the dependencies that Choctaw Voice enters into are agreement dependencies or case-assignment dependencies. However, for now I couch my argument in terms of the agreement analysis, since there is less machinery to assume and it is more 'surface true'.

Now that we have introduced some basic assumptions about how active agreement works in Choctaw, I present the argument for low ergative configurations, in which internal arguments are, unexpectedly, targeted by Voice's ϕ-probe (schematised in (6)). As foreshadowed in the introduction, these are the configurations which provide evidence that agreement is a CONTEXTUALLY MANIPULABLE property of functional heads.

The logic of the argument is as follows. In the Section 3, I describe four diagnostics for internal argumenthood OTHER than choice of agreement morphology. Then in Section 4, these diagnostics are applied to several intransitive verbs with ERG-indexed subjects. The subjects of these verbs pattern like internal arguments, and I argue that this is because they ARE internal arguments – it is the ERG agreement that is misleading. In Section 5 I augment the simple analysis provided here, in order to account for these 'mismatched' arguments.

3. DIAGNOSING INTERNAL ARGUMENTS

We saw in the previous section that external arguments in Choctaw are generally indexed by ERG agreement. I proposed that this is because they are merged in Spec-VoiceP and targeted by Voice's ϕ-probe. Internal arguments are generally indexed by ABS or DAT agreement. I proposed that this is because they are targeted by ϕ-probes within the complement of Voice. Some authors have taken the choice of agreement affix to be, essentially, the final word on the internal vs external status of an argument (e.g. Davies 1981, 1986). Others, such as Munro & Gordon (1982), have advocated a view that allows mismatches between an argument's thematic role and choice of agreement morphology, although they do not apply diagnostics in the

case-assignment. Clitic-doubling creates an A-chain between the argument and its clitic. Case is then subsequently assigned to the entire chain in the postsyntax.

[11] Tyler's analysis of ABS clitics as indexing caseless arguments follows Arregi & Nevins's (2012) analysis of ABS clitics in Western Basque.

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manner I do here. My purpose in the next two sections is to build on this insight and to formalise and constrain it.

In this section, I describe four properties that correlate with internal argumenthood, OTHER than choice of agreement affix. These properties can all be adapted as diagnostics, with varying degrees of applicability. They are: surviving the (anti)causative alternation (§3.1), rejecting the auxiliary *tahli* (§3.2), conditioning pluractional allomorphy (§3.3), and being compatible with applied dative subjects (§3.4). All of these properties function as unidirectional implicational statements: if a particular property holds of a verb or its subject, then the subject of that verb is an internal argument.[12] However, if the property does not hold, then we cannot make any inferences about the argument structure of the verb.

In the Section 4, I show that some arguments indexed by ERG agreement pattern like internal arguments according to (some of) the diagnostics outlined here. This constitutes the evidence for the low ergative configuration in (6), which in turn forms the evidence that the dependency-forming properties of functional heads like Voice many be manipulated in certain contexts.

3.1. *Surviving the causative alternation*

Choctaw has a semi-productive morphologically marked causative alternation, and many Choctaw verbs come in transitive/intransitive pairs (Ulrich 1986, Broadwell 2006, Tyler 2020). The most common markers for the transitive and intransitive alternants are the suffixes *-li* and *-a*, shown in (20), although other markers are common too, shown in (21) (the transitivity suffix *-li* should not be confused with the homophonous 1SG.ERG suffix *-li*).[13] Note that here and elsewhere, I gloss the root separately from the transitivity suffix only where it is relevant to the point at hand, owing to the multi-functionality of suffixes like *-li* (transitive/intransitive) and *-chi* (transitive/causative).

(20) 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’

[12] I generally avoid the term ‘unaccusative’ in this article because it comes with the implication that the verb in question is semantically agentless (e.g. it has an inchoative or stative interpretation). However, many Choctaw verbs with internal-argument subjects have passive-like interpretations, such as (28a) (see Tyler 2020: 172ff., 2021).

[13] Tyler (2020, 2021) refers to the members of the alternation as ‘active’ and ‘non-active’, drawing a parallel with Greek active/non-active verbs. However, I use the term ‘active’ here to describe the alignment of Choctaw’s agreement system, so I stick with ‘transitive/intransitive’ for the members of the causative alternation. In previous work, the transitive form has also been called the v2 form, and the intransitive form the v1 or MEDIOPASSIVE form (Ulrich 1986, Munro & Willmond 1994).

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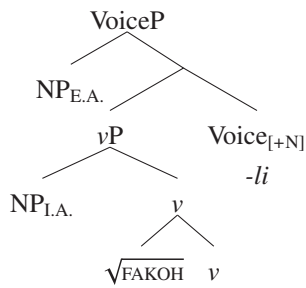
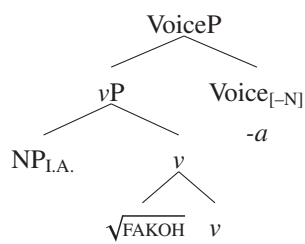
(21) a. moshoo-**chi**-h ‘she turned it off’
moshoo-**li**-h ‘it went out (of a light)’
b. nonaa-**chi**-h ‘she cooked it’
nona-**Ø**-h ‘it cooked’
c. awaata-**li**-h ‘she widened it’
awaata-**Ø**-h ‘it is wide’

I assume that in alternating pairs, the argument which is maintained in both the transitive and the intransitive alternants is the internal argument (though see below for a potential challenge to this assumption). The external argument appears only in the transitive alternant, as its subject. Following work on the causative alternation by Schäfer (2007), Alexiadou et al. (2015) and others, I model the alternation as the stacking of different Voice heads, which have different morphological realisations, on top of the same ‘common base’ constituent, a *v*P, which includes at least the verb root and the internal argument. The head ‘Voice$_{[+N]}$’ obligatorily introduces a NP specifier and ‘Voice$_{[-N]}$’ obligatorily lacks a NP specifier. The transitive and intransitive structures for *fakohli*/*fakooha* ‘peel off’ are shown in (22).

(22) a.



b.



I assume that Voice$_{[+N]}$ and Voice$_{[-N]}$ have multiple root-conditioned morphological realisations, inclluding as Ø, accounting for the variation we see in (20-21).[14]

[14] Of particular note, the suffix *-li* is used to form the transitive alternant of some roots, like those in (20), but is used to form the intransitive alternant of other roots, like those in (21a). The flexibility of *-li* leads Tyler (2020) to propose that it is the realisation of a third Voice head – an UNDERSPECIFIED one, which neither bans nor requires an NP specifier (following the three-way typology

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The diagnostic based on this pattern goes like this: if an argument survives the causative alternation, then the argument is an internal argument. But note that if an intransitive verb does not participate in the causative alternation, this diagnostic will not help us determine the internal vs external status of its subject.

It is necessary to address two issues that have the potential to weaken this diagnostic. Firstly, the 'common base' assumption may not hold for all roots. It could be the case, with some roots, that while the object of the transitive alternant is indeed an internal argument, the subject of the intransitive alternant, which appears to pattern SEMANTICALLY with the transitive object, is nonetheless syntactically an external argument (i.e. base-generated in Spec-VoiceP). Legate (2014: 119ff.) has shown that in Acehnese, the intransitive counterpart to many transitive verbs is syntactically unergative rather than unaccusative, even though the subject of the intransitive patterns semantically with the transitive object. I believe that verb pairs like this DO exist in Choctaw – e.g. *chalhaakachi* 'rattle' (intr./tr.) – but so far I have only noted this pattern in the class of sound emission verbs (which also have the interesting property of being morphologically LABILE – that is, they do not morphologically distinguish the transitive and intransitive alternants). For now, I assume that, by default, the common base assumption DOES hold for all Choctaw roots, but I acknowledge that the existence of Acehnese-type patterns weakens the assumption.

The second confounding issue is that Choctaw allows virtually all verbs, including unergatives, to be productively causativised with the suffix *-chi.* This is shown below for a transitive verb (23) and an unergative verb (24).

(23) a. Akaka awashli-tok.
chicken fry.TR-PST
'She fried the chicken.'
b. Akaka awashli-**chi**-tok
chicken fry.TR-**CAUS**-PST
'He made her fry the chicken.'

(24) a. Taloowa-tok.
sing-PST
'She sang.'
b. Taloowa-**chi**-tok.
sing-**CAUS**-PST
'He made her sing.'

On the evidence of the morphology alone, it is therefore possible that when the transitive counterpart of an intransitive verb is formed with *-chi* as in (24) (and

of specifier requirements proposed by Kastner 2016, 2020). I suggest that a related but different analysis may fare better: *-li* is indeed the morphological realisation of an underspecified Voice head, but it is MADE underspecified by a morphological impoverishment rule. Some roots condition the postsyntactic removal of a '[+N]' or '[–N]' feature from their linearly adjacent Voice head, with the result that *-li* may show up with both transitives and intransitives.

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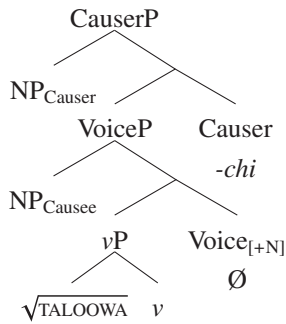
several of the at-issue examples in Section 4 are formed like this), the transitive alternant is a SYNTACTIC CAUSATIVE – that is, a causative built on top of a 'complete' VoiceP projection, whose structure would look like that in (25). The fact that a syntactic causative can be built on the underlying intransitive does not tell us anything about the internal vs external status of the underlying intransitive.[15]

(25)



We must therefore be careful to exclude the possibility that a transitive alternant formed with *-chi* is a syntactic causative. Each time the diagnostic is applied (in Sections 4.1 and 4.2), I provide evidence that the transitive alternant in question is a true LEXICAL CAUSATIVE – that is, one with a structure like (22a) – and not a syntactic causative.

3.2. *Rejecting tahli*

Choctaw has a pair of verbs *tahli*/*taha*, meaning something like 'finish', which can take a participial phrase formed with *-t* as their complement. Broadwell (1988, 2006) shows that in this auxiliary-like usage, the choice of *tahli* vs *taha* depends to an extent on the participial verb. He terms this 'auxiliary selection', by analogy with a similar phenomenon in European languages. And although I follow Broadwell in referring to *tahli*/*taha* as 'auxiliaries', it is important to note that the choice of auxiliary is less categorical than in European languages. As shown in (27), verbs with ERG subjects generally appear with *tahli* and, occasionally, with *taha* (though judgements on the acceptability and function of the latter are not totally clear to me at this stage).[16]

[15] Some speakers allow verbs with internal-argument subjects to undergo syntactic causativisation, but other speakers find it strange. See Tyler (2020: 148) for discussion.

[16] *Taha* has a wider range of interpretations than *tahli*. In addition to expressing completed events and completely affected participants, *taha* is also used to indicate something like the progressive, as in (26a), and can exhaustify a plural subject, as in (26b).

(26) a. Chi-nashooka-t okchakko-t taha-h!
2SG.ABS-face-NOM be.blue-PTCP finish-TNS
'Your face is turning blue!'

b. Fohooba-t taha-h.
pile.up.INTR-PTCP finish-TNS
'They all fell down (in a pile).'

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By contrast, verbs with ABS or DAT subjects can only appear with *taha*, and uniformly reject *tahli*, as shown in (28).[17,18]

(27) Taloowa-t ish-tahli-tok / ish-taha-tok.
sing-PTCP 2SG.ERG-finish-PST / 2SG.ERG-finish-PST
'You've finished singing.'

(28) a. Sa-faama-t taha-h / *tahli-h.
1SG.ABS-whip.INTR-PTCP finish-TNS / *finish-TNS
'I've been whipped.'

b. Michelle-at car im-aayiska-t { taha-hm-at /
Michelle-NOM car DAT-fix-PTCP finish-when-SS /
*tahli-hm-at } i-chokka iya-tok.
*finish-when-SS DAT-house go-PST
'When Michelle had had her car fixed, she went home.'

The pattern of (in)compatibility with *tahli* in (27-28) can be put to use as a diagnostic for whether the subject of the main verb is an internal or external argument: if the verb can appear in the complement of *tahli*, its subject is likely an external argument; if it rejects *tahli*, its subject is likely an internal argument. Compatibility with *taha* cannot be used as a diagnostic in the same way, since (27) shows that *taha* may be accepted with some verbs whose subject is an external argument (and see Note 15).

It is necessary at this point to address the confounding factor of stativity. Where *tahli* appears, its complement is typically the participle of an eventive verb (as in (27)), by virtue of the fact that a great many ERG-subject verbs are eventive. And when *taha* appears, its complement is often the participle of a stative verb, by virtue of the fact that a great many ABS/DAT-subject verbs are stative (e.g. *awaata* 'it is wide' in (21c)). However, these correlations are not exceptionless. In the examples in (28), the verb in the complement to *taha* can have an eventive interpretation, yet *tahli* is still ruled out. And in (29a), *ittola* 'fall' can ONLY have an eventive interpretation, yet still occurs only with *taha.* Conversely, the example in (29b) shows that stative ERG-subject verbs like *achokmahni* 'like' can co-occur with *tahli.*

(29) a. Ittola-t taha-h / *tahli-h.
fall-PTCP finish-TNS / *finish-TNS
'She completely fell.'/'They all fell.'

Broadwell (1988: 124) also notes that *taha* can mean something like 'finally', in which case it can appear with any verb.

[17] The subject agreement prefix is attached to the auxiliary in (27), but to the main verb in (28), though this does not affect the point at hand. See Section 5.2, as well as Broadwell & Martin (1993) and Tyler (2019b), for discussion of the distribution of agreement markers in clauses with auxiliaries.

[18] *Fama* 'be whipped', as in (28a), is an intransitive verb with a 'lexical passive' interpretation – see Ulrich (1986), Tyler (2021), as well as Note 3.

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b. Hattak-m-a̲ achokmahni-t tahli-li-h.
man-DEM-OBL like-PTCP finish-1SG.ERG-TNS
'I've finished liking that man.'

I do not address here the aspectual interpretation of the participle morphology, nor the aspectual interpretation of the resulting sentence with *taha*/*tahli*. For now, I simply note that the acceptability of *tahli* appears to relate to the internal vs external status of the subject of the main verb and cannot be reduced to whether or not the main verb is stative (though this does affect the choice of auxiliary in those environments where either is possible, cf. example (27) and Note 15).

I also do not provide an explanation for WHY different classes of verb pattern differently in compatibility with *tahli* – see Sorace (2000), McFadden (2007) and J. Baker (2018) for discussion of typological and theoretical issues in auxiliary selection (if this is indeed an instance of auxiliary selection). Nonetheless, as noted above, compatibility with *tahli* can be used as a diagnostic for argument structure: if a verb can appear in the complement of *tahli*, its subject is an external argument; if it rejects *tahli*, its subject is likely an internal argument, though there are doubtless other aspect-related factors involved.

3.3. *Pluractional allomorphy*

Many Choctaw verbs exhibit allomorphy conditioned by PLURACTIONALITY (Broadwell 1988, 1993, 2006). What renders a verb pluractional varies across languages (see Cusic 1981, Wood 2007, Henderson 2012), but the relevant considerations for Choctaw seem to be, informally, the plurality of the event and the plurality of the internal argument.

The pairs of verbs in (30) and (31) illustrate one common allomorphy pattern for transitive change-of-state verbs (Broadwell 2006: 135): in non-pluractional environments, the stem ends in *-ffi*; in pluractional environments (plural object or pluractional event), the stem ends in *-hchi* (or *-hlichi*).

(30) a. Tana̲po-m-a̲ lhoka-ffi-li-tok.
gun-DEM-OBL fire-TR-1SG.ERG-PST
'I fired the gun.'
b. Tana̲po-m-a̲ lhoka-hchi-li-tok.
gun-DEM-OBL fire-TR.PL-1SG.ERG-PST
'I fired the gun several times.'

(31) a. Ishtí̲pa kocho-ffi-li-h.
fork bend-TR-1SG.ERG-TNS
'I bent the fork.'
b. Cans kocho-hchi-t tahli-li-tok.
cans bend-TR.PL-PTCP finish-1SG.ERG-PST
'I crushed the cans.'

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Pluractional allomorphy in transitives is only ever sensitive to the plurality of the event (as in (30)) or the ABS object argument (as in (31)), never to the plurality of the ERG transitive subject argument.

A large number of intransitive verbs exhibit pluractional allomorphy too. An example is given in (32), which showcases a common morphological pattern for intransitive change-of-state verbs (Broadwell 2006: 135) – the non-pluractional stem ends in *-fa* and the pluractional stem ends in *-hli.*

(32) a. Balloon-at bokaa-fa-tok.
balloon-NOM pop-INTR-PST
'The balloon popped.'
b. Firecracker-m-at boka-hli-h.
firecracker-DEM-NOM pop-INTR.PL-TNS
'The firecracker is popping.'

Most verbs that undergo this particular alternation (*-fa*/*-hli*) ALSO have causative counterparts, which participate in the *-ffi*/*-(hli)chi* alternation in (30-31). As per the diagnostic outlined in Section 3.1, the subjects of these intransitive verbs can be classified as internal arguments.

So we know that: (a) the pluractional alternation in transitive verbs can be conditioned by the number of the object, but not by the number of the subject, and (b) with intransitive verbs, most of those that show the pluractional alternation also participate in the causative alternation. These findings can be combined into the generalisation that pluractional allomorphy is only ever found when there is an internal argument. To frame this property as a (unidirectional) diagnostic for the status of intransitive verbs: if an intransitive verb exhibits pluractional allomorphy, its subject is an internal argument.[19]

3.4. *Compatibility with applied dative subjects*

Many intransitive verbs with ABS subjects can have an applied subject added to them, which is indexed by DAT agreement. The addition of this applied subject causes the original ABS subject to become the object. The pairs of sentences in (33-35) show that applied dative subjects can be added to various ABS-subject intransitive verbs, yielding a small and identifiable set of interpretations. In each (b) example, the applied subject (which may be a null *pro*) and the DAT prefix that indexes it are bolded.

[19] Harley (2014) and Bobaljik & Harley (2017) propose an explanation for why, cross-linguistically, it appears that stem allomorphy can be conditioned only by the number of the INTERNAL argument and not the external argument. The core claim is that only internal arguments are in a sufficiently local relation with the verb root to condition root allomorphy. External arguments are merged outside of this domain. However, this explanation does not generalise very elegantly to allomorphy conditioned by PLURACTIONALITY, which includes event plurality as well as argument plurality, and thus I do not commit to it here.

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(33) *DAT subject = indirect causer/'engineer'* (in the sense of Myler 2016)

a. Abooshi móma-k-at kashoofa-t táaha yaa-tok.
room be.all-COMP-NOM clean.INTR-PTCP finish.LG be-PST
'All the rooms had been cleaned.'

b. **Miko-yat** abooshi móma-k-a **i-**kashoofa-t táaha
chief-NOM room be.all-COMP-OBL **DAT-**clean.INTR-PTCP finish.LG
yaa-tok.
be-PST
'The chief had all of the rooms cleaned.'

(34) *DAT subject = locative experiencer*

a. Chi-holisso-at ittola-tok
2SG.DAT-book-NOM fall-PST
'Your book fell down.'

b. ***pro*$_{\mathbf{1SG}}$** Chi-holisso **am**-ittola-tok
2SG.DAT-book **1SG.DAT-**fall-PST
'I dropped your book.'

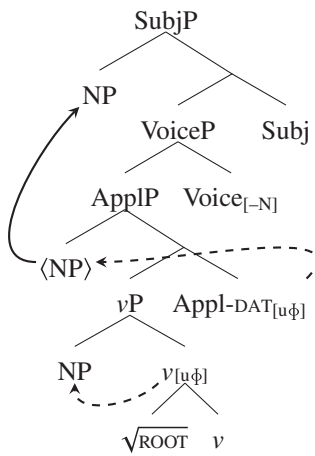
(35) *DAT subject = external possessor*

a. Ofi-yat abiika-h.
dog-NOM be.sick-TNS
'The dog is sick.'

b. Alíkchi-at ofi **im**-abiika-h.
doctor-NOM dog **DAT-**be.sick-TNS
'The doctor's dog is sick.'

Applied dative subjects can also be used to express predicative possession relations, when added to quantifier and positional verbs – these are discussed in Sections 4.1 and 4.2. Tyler (2020) posits the structure in (36).

(36)



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This structure predicts that we should be unable to add dative subjects to unergative verbs. This is because unergative subjects are merged in Spec-VoiceP, above Spec-ApplP and, thus, the applied argument would not be permitted to move over the external argument to the subject position. This prediction is true, as shown in (37).

(37) a. *pro_{1SG} Hoshi a-taloowa-tok.
bird 1SG.DAT-sing-PST
('My bird sang.')
b. #Alíkchi-yat ofi i-wohwa-tok.
doctor-NOM dog DAT-bark-PST
(intended: 'The doctor's dog barked.')
actual: 'The doctor barked for the dog.'

Thus we can use a verb's (in)compatibility with an applied dative subject as a test for the internal vs external status of its subject: if an intransitive verb admits an applied dative subject, the subject of that intransitive verb is an internal argument.

To sum up, in this section we have seen four properties which can be used to diagnose internal argumenthood, other than choice of agreement morphology. They are: surviving the causative alternation (§3.1), rejecting the auxiliary *tahli* (§3.2), conditioning pluractional allomorphy (§3.3), and being compatible with an applied dative subject (§3.4). And for most verbs, these properties correlate well with whether the subject argument is indexed by ERG agreement or by ABS/DAT agreement. This is summarised in the table in (38).[20]

(38)

Subject is...	Subj. agr.	Caus. alt.	Rejects aux. *tahli*	Pl. all.	DAT subj.
internal argument	ABS	Y	Y	Y	Y
external argument	ERG	N	N	N	N

In the next section I focus on a set of verbs where this correlation breaks down. Using the diagnostics described above, I argue that there is a distinct set of internal argument subjects which are nonetheless indexed by ERG agreement, as in the configuration in (6). The fact that this configuration emerges in certain morphosyntactic environments is the foundational piece of evidence for my claim that the dependency-forming properties of functional heads (i.e. case and agreement properties) may be conditioned by their morphosyntactic environment.

[20] As mentioned at the beginning of Section 3, the diagnostics in (38) are unidirectional. If a verb shows a property on the top row, then that counts as evidence that its subject is an internal argument. But if the verb does not show that property, then we are none the wiser as to the internal vs. external status of its subject: for instance, there are many verbs which have internal argument subjects, but which lack transitive alternants or do not participate in a pluractional alternation or do not accept applied dative subjects, for independent reasons.

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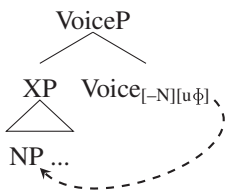
4. ERG INTERNAL ARGUMENTS

Section 3 outlined four properties that generally correlate with internal argument status. In this section, I examine three kinds of verb whose subject argument is indexed with ERG agreement, but which nonetheless pattern in other ways like an internal argument. I propose that these verbs instantiate the low ergative structure in (39), first introduced in (6).[21]

(39)



The arguments I identify as low ergative are the subjects of positional verbs (§4.1), the subjects of quantifier verbs (§4.2), and the subjects of transitive psych verbs in ABSOLUTIVE PROMOTION contexts (§4.3). In each case, we see that the subject of the verb is indexed by ERG agreement, but behaves like an internal argument according to (at least some of) the diagnostics provided in Section 3.

4.1. *Positional verbs*

Many positional verbs index their subjects with ERG morphology, as in (40).

(40) a. Ii-binohmáya-h.
1PL.ERG-sit.PL.NG-TNS
'We're sitting.'
b. Ish-hikíya-h.
2SG.ERG-stand.NG-TNS
'You're standing.'

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 is their participation in the causative alternation. Some alternating pairs of positional verbs are shown in (41) (as in (20-21), the transitivity suffix is glossed separately from the root).

(41) a. binii-li-h 'it is sitting'
binii-chi-h 'she sat it down'

[21] This analysis is quite similar in spirit to a 'raising-to-ergative' analysis (Rezac et al. 2014, Deal 2019). In such an analysis, the internal argument raises to Spec-VoiceP, whereupon it is treated by the case and agreement-related functional heads like a base-generated external argument. The crucial thing, which remains constant across both analyses, is that a dependency is formed between Voice and the (once-)internal argument.

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b. takaa-li-h ‘it is hanging up’
takaa-chi-h ‘she hung it up’
c. hikí-ya-h ‘it is standing’
hilii-chi-h ‘she stood it up’

Note that the transitive members of these pairs end in *-chi*, which is the default causative suffix. As noted in Section 3.1, these transitives could therefore be analysed as productively derived syntactic causatives rather than lexical causatives. However, we can marshal two pieces of evidence that the transitive verbs in (41) are lexical causatives and not syntactic causatives. For one thing, the transitive suffix (*-chi*) replaces the intransitive suffix *-li* and is added directly onto the root. This is expected if *-chi* is the exponent of a Voice head that merges directly with *v*P, creating a lexical causative (rather than a functional head which merges with an already-built VoiceP, which would create a syntactic causative).[22] For another thing, the transitive positional verbs in (41) are interpreted as encoding direct causation rather than indirect causation (see Miyagawa 1984 for discussion of this distinction in Japanese causatives). Some transitive positional verbs with clear direct causation readings are shown in (42).

(42) a. Chi-fokka lobo achíifa-cha aba takaa-chi-h.
2SG.DAT-shirt round wash.TR.LG-and.SS up hang-TR-TNS
‘Wash your shirt and hang it up.’
b. Holbatoba-m-a chokbika hilii-chi-h.
picture-DEM-OBL corner stand-TR-TNS
‘Put that picture in the corner.’

The second piece of evidence that the subjects of intransitive positional verbs are internal arguments comes from the root allomorphy diagnostic (§3.3): 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 (44).[23]

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[22] Note that adjacency between the root and the causative suffix is not a watertight diagnostic for lexical causativehood: it could be that these ARE syntactic causatives, and the lower Voice head which is selected by the higher syntactic-causative-forming functional head becomes phonologically null in the context of the higher causative head. However, to my knowledge, in Choctaw the functional head that forms syntactic causatives does not generally affect the exponence of the transitivity suffix that’s closer to the stem, so such a pattern would be unusual.

[23] The pluractional verbs that end in-*mą́ya* are in the n-grade (on which see Section 4.1.1), and consequently must have a result-state interpretation, as shown in (43a). In contrast, those that end in *-li* need not be in the n-grade, and may receive an eventive interpretation as in (43b).

(43) a. Na imaabachii-t ona-km-a, aabinini 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.’
b. Imaabachii-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.’

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(44) 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 Section 3.3, 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 are added to positional verbs, the resulting construction has a predicative possession interpretation. Applied dative subjects and their associated agreement markers are bolded in (45).

(45) a. **Alíkchi-yat** ofi **i-**kahmáya-h.
doctor-NOM dog DAT-lie.PL.NG-TNS
‘The doctor has dogs.’
b. ***pro*$_{\textbf{1SG}}$** Car pálhki **a-**hikíya-tok.
car fast.NMLZ 1SG.DAT-stand.NG-PST
‘I had a fast car.’

Compatibility with applied dative subjects was argued in Section 3.4 to be a property of verbs without external arguments, thus the subject of intransitive 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, their participation in the causative alternation, and the fact that they accept applied dative subjects. Regarding the remaining test for internal argument status – whether or not it rejects the auxiliary *tahli* – the data is a little more complex, and I briefly outline the pattern in the following subsection.

4.1.1. *Tahli with positional verbs*

Positional verbs can have eventive or stative readings. One way to force a stative reading is to put it in a particular morphophonological template known as the N-GRADE, in which the penult is nasalised and carries a pitch accent (see Nicklas 1974, Ulrich 1986 and Broadwell 2006: ch.10 for detailed discussion of Choctaw’s verb grades). By contrast, verbs in the ZERO-GRADE (i.e. unmodified), either have an obligatory eventive reading, or convey that the state is notably temporary. The zero-grade and n-grade forms of some positional verbs are contrasted in (46).

(46) a. hikiiya-h ‘she stood up’
hikíya-h ‘she is standing’

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b. biniili-h ‘she sat down’
biníli-h ‘she is sitting’
c. ittola-h ‘she fell’
ittóla-h ‘she is lying’
d. atta-h ‘she is there (right now)’
átta-h ‘she is there’

This contrast is relevant to the choice of auxiliary. Verbs in the n-grade reject *tahli*, as in (47a); verbs in the zero-grade can appear with *tahli*, as in (47b).

(47) a. Talohmáya-t taha-tok/*tahli-tok.
lie.INAN.PL.NG-PTCP finish-PST/*finish-PST
‘They are all there.’
b. Hikiiya-t taha-tok/tahli-tok.
stand-PTCP finish-PST /finish-PST
‘She fully stood up.’

In light of these facts, we might only be justified in claiming that that positional verbs IN THE N-GRADE have internal argument subjects. This more limited conclusion is supported by the observation that, to my knowledge, we only ever see positional verbs take applied dative subjects when they are in the n-grade (Broadwell 2006: 340) (e.g. (45)). This pattern also suggests that there is a more complex aspectual interaction between the auxiliary and the main verb, which I do not explore further here.

4.2. *Quantifier verbs*

Quantifier verbs in Choctaw uniformly take ERG subjects, as shown in (48).

(48) a. Ii-lawa-h.
1PL.ERG-be.many-TNS
‘There are many of us.’
b. Ii-toklo-h.
1PL.ERG-be.two-TNS
‘There are two of us.’

We can marshal three pieces of evidence for the claim that the subjects of quantifier verbs are internal arguments, despite their ERG agreement.

First, quantifier verbs participate in the causative alternation, marked by the presence/absence of *-chi.* Some examples are given in (49).

(49) a. mǫ́ma-h ‘they are all’
mǫ́mí-chi-h
b. lawa-h ‘they are many’
lawaa-chi-h

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c. toklo-h 'they are two'
toklí-chi-h

There is a lot to be said about the syntax of quantifier verbs – see Broadwell (2006: ch.14) for an overview of the Choctaw facts, and Munro (2017) for Chickasaw. But, essentially, intransitive quantifier verbs can be used as main verbs, as in (48), or as participial adjuncts to verbs, where they quantify over the subject, as in (50).[24]

(50) Okl-ii-mǫ́ma-t il-ip-aachi-h.
PL-1PL.ERG-be.all-PTCP 1PL-eat-FUT-TNS
'We will all eat.'

Transitive quantifier verbs are generally found as participial adjuncts to transitive clauses and they quantify over the object of the clause they adjoin to.[25] To capture the intuition of what transitive quantifier verbs mean, Broadwell (2006: 227) offers the translation 'doing it to all/some/two/… of them', illustrated in the literal translations of the examples in (51).

(51) a. Alíkchi-yat alla momíchi-t masaali-chi-tok.
doctor-NOM child all.TR.NG-PTCP heal-CAUS-TNS
'The doctor cured all the kids.'
(lit. 'The doctor cured the kids, doing it to all of them.')
b. Ofi aa-toklíchi-t ii-lhiyohli-tok.
dog LOC-two.TR.NG-PTCP 1PL.ERG-chase-PST
'We chased the two dogs.'
(lit. 'We chased the dogs, doing it to two of them.')

What is relevant for our purposes is that the argument that gets quantified by intransitive quantifier verbs is the SUBJECT, but the argument that gets quantified by transitive quantifier verbs is the OBJECT. By the logic of the 'common base' approach to the causative alternation discussed in Section 3.1, this implies that the ERG subject of the intransitive quantifier verbs is an internal argument.

Since the transitive quantifier verbs are formed with the default causative suffix *-chi*, it is necessary to show that they are lexical causatives and not simply syntactic causatives of unergatives (following the discussion in Section 3.1). One piece of evidence is that the *-chi* suffix triggers stem allomorphy: for instance, *toklo* 'be two' becomes *toklí-chi*, containing an unexpected stem-final *i*.Under Harley's (2008) analysis of Japanese causatives, which builds on earlier work by Miyagawa (1980, 1984), the functional head implicated in syntactic causatives is too distant from the root to condition allomorphy on it – specifically, it is separated from the root by a

[24] In this section I only discuss 'coverbal' quantification strategies, but adnominal quantification is possible too, although not discussed here.
[25] Broadwell (2006: 228) provides some examples of transitive quantifier verbs being used as main verbs, but my consultants were unsure about them.

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PHASE boundary. By contrast, the functional head implicated in lexical causatives (transitive Voice) is within the same phase as the root, and so can condition root allomorphy (Marantz 2013). A further argument that transitive quantifier verbs are not syntactic causatives is simply that they do not have causative interpretations. *Toklíchi*, the transitive counterpart of *toklo* 'be two', means (roughly) 'do it to two of them'; it does NOT mean 'cause to be two in number'.[26]

Returning to the evidence that the ERG subjects of intransitive quantifier verbs are internal arguments, the second piece of evidence is that these verbs appear only with *taha* and cannot appear with *tahli*, as in (52).

(52) a. Okla ii-lawa-t taha-h/*tahli-h.
PL 1PL.ERG-be.many-PTCP finish-TNS/*finish-TNS
'There are now a lot of us.'
b. Okla il-oshta-t taha-h/*tahli-h.
PL 1PL.ERG-be.four-PTCP finish-TNS/*finish-TNS
'There are now four of us.'

The third piece of evidence for the internal argument status of the subjects of intransitive quantifier verbs comes from their ability to take applied dative subjects. Like positional verbs (§4.1), quantifier verbs with applied dative subjects receive predicative possession interpretations, as in (53).

(53) a. Hattak-m-at na atakláma i-lawa-h.
man-DEM-NOM thing bother.NMLZ DAT-be.many-TNS
'That man has a lot of troubles.'
b. *pro*$_{1SG}$ Alla a-tóchchina-h.
child 1SG.DAT-be.three-TNS
'I have three children.'

In this subsection I have presented three pieces of evidence that intransitive quantifier verbs instantiate the low ergative structure in (39), with their subjects being internal rather than external arguments: they participate in the causative alternation, they reject the auxiliary *tahli*, 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 not surprising since quantifier verbs, by their nature, often restrict the number of their argument (e.g. *achaffa* 'be one', *lawa* 'be many', *talhappi* 'be five', and so on).

[26] Tyler (2020: 145ff.) supplies some further arguments that transitive quantifier verbs formed with *-chi* are lexical causatives and not syntactic causatives.

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4.3. *Psych verbs undergoing absolutive promotion*

Subject-experiencer psych verbs usually index their subject with DAT or ABS agreement. The relevant class here are those with ABS subjects, as in (54), discussed in detail by Tyler (2019a).

(54) a. Sa-nokshoopa-h.
1SG.ABS-be.afraid-TNS
'I'm afraid.'
b. Sa-hoofahya-h.
1SG.ABS-be.ashamed-TNS
'I'm ashamed.'

These verbs behave typically for verbs with internal-argument subjects. Some of them participate in the *-a*/*-li* causative alternation, as exemplified in (55).[27]

(55) a. nokshoob-**li**-h she scared him
nokshoop-**a**-h he is scared
b. noklhakash-**li**-h she shocked him
noklhakach-**a**-h he is shocked

And they uniformly reject the auxiliary *tahli*, as exemplified in (56)

(56) Sa-nokshoopa-t taha-h/*tahli-h.
1SG.ABS-be.afraid-PTCP finish-TNS/*finish-TNS
'I'm terrified.'

What is relevant to our investigation of low ergatives is that ABS subject psych verbs may also take a dative object argument. The example in (57) shows that the dative object is interpreted as a stimulus or subject-matter argument, following Pesetsky (1996).

(57) Alla-m-at a-nokshoopa-h.
child-DEM-NOM 1SG.DAT-be.afraid-TNS
'That kid is afraid of me.'

Crucially, the subject of these verbs, usually indexed by ABS agreement, may exceptionally be indexed by ERG agreement in the presence of the dative object. Tyler (2019a) termed this phenomenon ABSOLUTIVE PROMOTION, by analogy with a similar process documented in Western Basque (Rezac 2008, Arregi & Nevins 2012). To illustrate that the ABS > ERG switch can only occur when a dative object argument is present, consider (58-59). (58) shows that in the absence of a stimulus argument, the ABS agreement morphology indexing the experiencer cannot be swapped for ERG agreement. But (59) shows that once a dative stimulus argument is added, speakers have the option of swapping out the ABS affix for an ERG one.

[27] Not all speakers I consulted use *noklhakashlih* 'shock (tr.)'.

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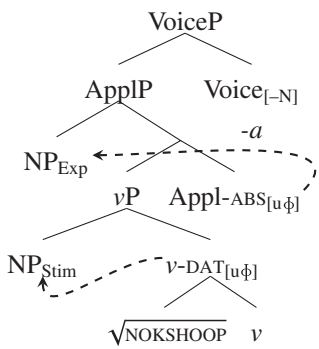
(58) a. **Sa**-nokshoopa-h.
1SG.ABS-be.afraid-TNS
'I'm afraid.'
b. *Nokshoopa-**li**-h.
be.afraid-1SG.ERG-TNS
('I'm afraid.')

(59) a. Chi-**sa**-nokshoopa-h.
2SG.DAT-1SG.ABS-be.afraid-TNS
'I'm afraid of you.'
b. Chi-nokshoopa-**li**-h.
2SG.DAT-be.afraid-1SG.ERG-TNS
'I'm afraid of you.'

I propose that psych verbs undergoing absolutive promotion constitute another instance of low ergative, where a non-external argument is targeted by Voice's ϕ-probe, although the structure is a little different from that in (39).

Tyler (2019a) proposes that non-promoted transitive psych verbs associate with the syntactic structure in (60) (agreement dependencies are also shown – the experiencer argument is targeted by an ABS probe on Appl; the stimulus argument is targeted by a DAT probe on *v*).

(60)



That subject-experiencer psych verbs involve specifier-less Voice$_{[-N]}$ is supported by the fact that several of these verbs take part in the *-a*/*-li* causative alternation discussed in Section 3.1, with the experiencer becoming the object, as in (55).

I propose that in absolutive promotion contexts, Voice$_{[-N]}$ exceptionally launches a ϕ-probe and forms an agreement dependency with the closest argument in its domain – the experiencer. The result of this operation is schematised in (61) (note that Appl-ABS appears to no longer form a dependency with the experiencer argument here, since there is no ABS agreement with it – see Section 5.2 for discussion).

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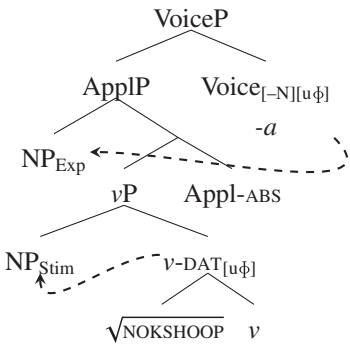
(61)



The examples in (62) show that both with and without absolutive promotion, transitive psych verbs appear only with the auxiliary *taha*, and reject *tahli*, as we would expect if the ERG subject remained an internal argument (see §3.2).

(62) a. Chi-sa-nokshoopa-t taha-h/*tahli-h.
2SG.DAT-1SG.ABS-be.afraid-PTCP finish-TNS/*finish-TNS
'I'm terrified of you.'

b. Mary ish-i-nokshoopa-t taha-h/*tahli-h.
Mary 2SG.ERG-DAT-be.afraid-PTCP finish-TNS/*finish-TNS
'You're terrified of Mary.'

We have therefore seen that psych experiencers in absolutive promotion contexts are another likely case of low ergative. They pass two of the diagnostics provided in Section 3: participating in the causative alternation and rejecting the auxiliary *tahli.* What's more, these arguments are indexed by ABS clitics in all non-promotion environments, providing a piece of evidence for the internal argument status of the subject that is inapplicable to the two other verb classes discussed in this section. Regarding the two remaining tests for internal argument status, psych experiencers do not condition pluractional allomorphy, nor do they admit applied dative subjects. The pluractional allomorphy diagnostic is unidirectional, and so the fact that these verbs do not exhibit it does not tell us anything about their argument structure. And the fact that these verbs fail to admit applied dative subjects could be attributed to these verbs already having an applied argument – the ABS/ERG experiencer – prevents a further ApplP from merging into the structure. I do not investigate this further here.

4.4. *Summary of low ergative subjects*

I have proposed that external arguments are uniformly indexed by ERG agreement, while internal arguments (including themes and psych experiencers) may be indexed by ABS, DAT or, crucially, ERG agreement. The evidence for ERG-indexed

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internal arguments came from applying the diagnostics in Section 3 to three classes of verbs. The table in (63) shows how the subjects of positional, quantifier and psych verbs exhibit a number of the characteristic properties of internal argument subjects.[28]

(63)

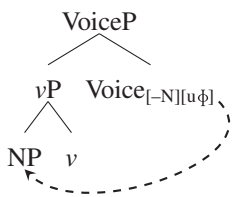
verb type	Subj. agr.	Caus. alt.	Rejects aux. *tahli*	Pl. all.	DAT subj.
canonical unaccusative	ABS	Y	Y	Y	Y
quantifier	ERG	Y	Y	N	Y
positional (n-grade)	ERG	Y	Y	Y	Y
psych	ABS/ERG	Y	Y	N	N
canonical unergative	ERG	N	N	N	N

Not every cell on this table is neatly explained. Nonetheless, taken together I believe that the evidence here points to the subjects of certain ERG-subject verbs in fact being internal arguments.

5. Analysis: contextually manipulable case/agreement behaviour of functional heads

I proposed in Section 4 that internal-argument subjects get indexed by ERG agreement because they are targeted by a ϕ-probe on $\text{Voice}_{[-\text{N}]}$. This is schematised for canonical internal arguments in (64) and for psych experiencers in absolutive promotion contexts in (65).

(64)



[28] Motion verbs may fall into the 'low ergative' class for some speakers. Broadwell (1988) notes that motion verbs appear with the auxiliary *taha*, rather than *tahli*, and in Broadwell (2006: 308) he shows that at least some motion verbs permit applied dative subjects. In addition, many of them show plural allomorphy or suppletion (e.g. *iya* 'he/she/it goes' vs *ilhkooli* 'they go'). However, at least for the speakers who I consulted, motion verbs ARE compatible with *tahli*, they reject applied dative subjects, and many of the singular-plural pairs are NOT in complementary distribution – that is, while *ilhkooli* does require a plural subject, *iya* can take a singular or plural subject. Because of these difficulties, I leave motion verbs out of the discussion here.

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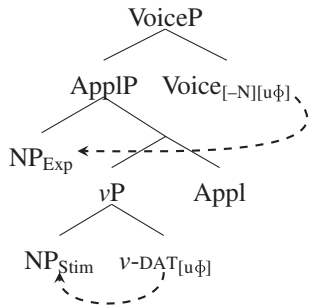
(65)



This agreement dependency is exceptional, because, as outlined in Section 2.1, $\text{Voice}_{[-\text{N}]}$ typically lacks a [uϕ] feature and consequently does not enter into any agreement dependencies. My proposal for how the configurations in (64-65) arise is that a functional head's dependency-forming features, including the agreement-seeking feature [uϕ] but also case-assignment features (to be discussed in Section 7), may be added or removed from functional heads, by rule, in the morphological derivation. So for example, $\text{Voice}_{[-\text{N}]}$ does not, by default, have a [uϕ] feature and, as a consequence, verbs without external arguments generally do not display ERG agreement. But in the context of some roots and some functional heads, $\text{Voice}_{[-\text{N}]}$ acquires a [uϕ] feature and so DOES launch a ϕ-probe. A rule that would add a [uϕ] feature to $\text{Voice}_{[-\text{N}]}$ in those contexts is given in (66).

(66) $\text{Voice}_{[-\text{N}]} \rightarrow \text{Voice}_{[-\text{N}][\text{u}\phi]}$ / { $\sqrt{\text{ROOT1}}$, $\sqrt{\text{ROOT2}}$, X^0, Y^0} __

I propose that a diverse range of syntactic terminals, encompassing both roots and functional heads, can be put in the structural description (i.e. after the '/') of a rule like (66). We saw in Sections 4.1 and 4.2 that positional and quantifier roots appear in low ergative structures. These examples motivate the rule in (67).[29]

(67) $\text{Voice}_{[-\text{N}]} \rightarrow \text{Voice}_{[-\text{N}][\text{u}\phi]}$ / { $\sqrt{\text{POSITIONAL}}$, $\sqrt{\text{QUANTIFIER}}$} __

And we saw in Section 4.3 that in the context of a DAT-indexed stimulus argument the typically ABS subject of a subject-experiencer psych verb may instead be indexed by ERG agreement (aka 'absolutive promotion'). This motivates the rule in (68).

(68) $\text{Voice}_{[-\text{N}]} \rightarrow \text{Voice}_{[-\text{N}][\text{u}\phi]}$ / *v*-DAT Appl __

I do not claim that the rule in (68) is the ONLY way to capture absolutive promotion in rule form – I only aim to show that it can be done in this system.

Finally, recall from Section 2.2 that, in Tyler's (2019a) analysis of Choctaw's argument-indexing morphology, ERG, ABS, and DAT morphemes are distinguished by

[29] '$\sqrt{\text{POSITIONAL}}$' and '$\sqrt{\text{QUANTIFIER}}$' are stand-ins for classes of roots. I remain agnostic on whether these roots have a shared syntactic property that makes them identifiable as a syntactic class.

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the case features of the argument they index. Under such an analysis, the rules in (67-68) would manipulate the case-assignment features ('[ERG]') of Voice$_{[-N]}$, rather than the agreement-seeking features ('[uϕ]').

In the remainder of this section I address three issues. In Section 5.1, I discuss in more detail the properties of rules like (66-68), and compare my analysis with some other recent analyses where X^0-NP dependency-formation is made dependent on multiple terminals rather than one. In Section 5.2, I address the issue of what happens to the 'expected' ABS agreement on *v* or Appl, when there is exceptional ERG agreement with that same argument. Finally, in Section 5.3, I consider an alternative conception of ERG agreement, as the reflex of dependent ergative case, and argue that it requires unwieldy assumptions.

5.1. *On the rules*

Rules like (66-68) are, essentially, DISSOCIATED FEATURE INSERTION rules, on which see Embick & Noyer (2007), Choi & Harley (2019), Rolle (2020). They involve the postsyntactic insertion of material onto an unreduced and unflattened syntactic structure and they take place EARLY in the morphological derivation (Choi & Harley 2019 refer to similar rules, evocatively, as 'node-sprouting' rules).[30] Given that rules like (66-68) must precede the establishment of agreement dependencies, which themselves must be able to 'see' hierarchical syntactic structure, I propose that the rule in (66) takes place at the earliest stage in the morphological derivation (for evidence that agreement dependencies are established postsyntactically, see Bobaljik 2008).[31]

Following Choi & Harley's (2019) account of dissociated feature insertion, I assume that all the terminals spelled out in the same phase as Voice are visible to the rule (see also Marantz 2013). Concretely, this means that a rule affecting a Voice head can be triggered in the context of a particular root, even if one or more functional heads (e.g. *v*, Appl) linearly intervene between Voice and the root. The ability of Voice and the root to interact in this way could be attributed to syntactic head-movement, which might gather the root and Voice into the same complex head by the point of spellout (and perhaps arrange them linearly adjacent to each other). Alternatively, it could simply be that the locality restrictions on an early-in-the-derivation operation like this one are quite loose, encompassing the entire phase – indeed, this is the account provided by Choi & Harley. For now, I leave the representation of the conditioning environment in its simple, relatively theory-neutral state. Note also that the root sensitivity of the rule requires that roots are individuated in the syntax – see Harley (2014) for recent arguments in favour of this position.

The rules in (66-68) are conceptually similar to some other recent proposals, where the establishment of a dependency between a verb and an argument (typically a case-

[30] Choi & Harley are concerned with rules that insert whole nodes, rather than inserting features on existing nodes, but the parallelism is clear.

[31] It would also be consistent to say that these rules are actioned right at the end of the syntactic derivation.

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assignment dependency rather than an agreement dependency) is dependent on multiple pieces of structure. One proposal comes from Deal (2010) and Clem (2019a, b), who argue that ergative case-marking in several languages (Deal discusses Nez Perce; Clem, Amahuaca) requires the case-marked NP to enter an agreement dependency with, and acquire features from, two separate functional heads (transitive *v*(=Voice) and T). Another proposal on these lines is made by Svenonius (2006): the idea is that a case-assigning functional head must establish a CHAIN with some other particular functional head before it can assign its case (Akkuş 2019 puts this to use in accounting for the distribution of ergative case-marking in Iranian languages).

I have opted to stick with a 'simple' implementation, using dissociated feature insertion rules rather than these alternative technologies, simply because rules like (66-68) come 'for free' with typical assumptions about the architecture of Distributed Morphology, combined with Bobaljik's claim that agreement takes place late in the morphological derivation. We do not NEED to assume multiple agreement as in Deal and Clem's analysis, or the existence of machinery such as case-assignment-by-chain as in Svenonius's analysis: a serial morphological module that is equipped with dissociated feature insertion and 'late Agree', in that order, is already powerful enough.

Indeed, it is possible that a Deal/Clem-style or a Svenonius-style account is not sufficiently powerful to account for the range of cross-linguistic dependencies anyway. It seems that in addition to rules that ADD dependency-forming features to functional heads in certain contexts, we need rules that REMOVE those features too. One such rule is argued by Wood (2015) to be operative in Icelandic *-st* anticausative constructions. First note that in Icelandic, when dative direct objects become the subject of a passive, they retain their dative case. This is exemplified with the pair of sentences in (69).

(69) a. Ásta splundraði rúðunni.
Ásta.NOM shattered window.the.**DAT**
'Ásta shattered the window.'
b. Rúðunni var splundrað.
window.the.**DAT** was shattered
'The window was shattered' (Wood 2015: 129)

Wood attributes this argument's dative case to a special property of *v*. In keeping with his notation, I notate this special *v* as $v_{[DAT]}$.

Now observe that when the dative argument becomes the subject of a *-st* anticausative, as in (70), it takes on nominative case, the 'default' case, instead.

(70) Rúðan splundraðist.
window.the.**NOM** shattered-ST
'The window shattered' (Wood 2015: 129)

Building on a proposal by Sigurðsson (2012), Wood (2015: 129ff.) proposes that in the context of anticausative morphology (the *-st* suffix in (70)), the usual dative-

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assigning property of $v_{[\text{DAT}]}$ is removed by an impoverishment rule. I reproduce his rule in (71).

(71) $v_{[\text{DAT}]} \rightarrow v$ / [$_{\text{VoiceP}}$ *-st* Voice __

This impoverishment rule, like the feature insertion rules proposed above for Choctaw, operates in the postsyntactic, morphological branch of the derivation. Other authors have implemented this idea in slightly different ways (McFadden 2004, Sigurðsson 2012), but the basic intuition remains the same: rules, which are operative in the postsyntax and make reference to morphosyntactic context, can manipulate the dependency-forming features of functional heads (in this instance a case-assignment feature). In Section 7, I argue that we need feature-removing rules like (71), in order to account for some lexically specific patterns within alignment systems that are broadly ergative or active. The accounts of Deal/Clem and Svenonius are too circumscribed to provide a simple account of these phenomena. Ultimately, however, it is NOT one of the goals of this article to delimit the possible space of contextual dependency-formation rules. The rules as employed here are very powerful and it is possible – even desirable – that the role of morphosyntactic context in dependency-formation ought to be more limited, but this requires cross-linguistic investigation.

5.2. *Keeping arguments and agreement morphemes in a one-to-one correspondence*

I have proposed that in the context of some roots and functional heads, Voice$_{[-\text{N}]}$ in Choctaw exceptionally sprouts a ϕ-probe. This accounts for the appearance of ERG agreement with roots and configurations whose subject we would expect to be indexed with ABS agreement. However, there's an issue: why are these 'low ergative' subjects not ALSO indexed by ABS agreement? After all, the rules in (67-68) add a ϕ-probe to Voice$_{[-\text{N}]}$, but they do not remove one from *v*, or Appl. Instead, there seems to be a 'conspiracy' to keep arguments and agreement morphemes in a one-to-one correspondence.

There are at least two broad ways to patch this hole in the theory. The more stipulative option is simply to assert that there are additional rules that remove a ϕ-probe from *v* or Appl in the same contexts that trigger Voice$_{[-\text{N}]}$ to sprout a ϕ-probe. These rules have to be learned in the same way that the probe-adding rules in (67-68) have to be learned, and the one-to-one argument-agreement correspondence comes out as, basically, an accident. I think we ought to rule this option out on the grounds that it misses the 'one-to-one' generalisation. The alternative option is to encode the one-to-one argument-agreement correspondence via some more general principle or constraint. Here I sketch three options, which invoke the ACTIVITY CONDITION, LAST RESORT licensing, and KINYALOLO'S CONSTRAINT. I suggest that the latter option shows most promise, at least for Choctaw.

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Taking the first of these first, the Activity Condition essentially states that after an XP has been targeted for agreement once, it cannot enter into any further agreement dependencies relations (Chomsky 2000). So if the internal argument exceptionally enters into an agreement dependency with Voice$_{[-N]}$, which results in morphological ERG agreement, it becomes incapable of entering an agreement dependency with *v* or Appl, and no ABS agreement morphology is generated. The problem with this analysis is that it IS possible for a single NP in Choctaw to be indexed by multiple agreement affixes, provided that those affixes are on different morphological words. So for instance, Tyler (2019b) shows that most of the time, when a verb like *taha/tahli* (see Section 3.2) takes a participial complement, subject agreement can show up just once: only on the higher verb or only on the participle. But in some environments – in particular in the presence of an object agreement marker – speakers may realise the subject agreement marker on both verbs:

(72) Okl-**il**-im-anópoli-t **ii**-tahli-h.
PL-**1PL.ERG**-DAT-speak-PTCP **1PL.ERG**-finish-TNS
'We finished talking to her.'

The second possible way of capturing the one-to-one argument-agreement correspondence would be a LICENSING requirement on verbs' arguments, which can only be satisfied if the argument enters an agreement dependency with some functional head. This requirement must be coupled with a Last Resort licensing mechanism, which steps in when the typical dependency-forming features of functional heads have failed to form a dependency with every argument. In such an analysis, what is 'special' about the low ergative configurations is NOT that Voice$_{[-N]}$ exceptionally agrees with the internal argument, but rather that *v* FAILS to agree with it. Then, Voice$_{[-N]}$ must step in as the Last Resort and agree with the internal argument; else it would go unlicensed. The empirical difficulty with an analysis of this nature is that sometimes, Choctaw arguments DO appear without being indexed by verbal agreement. One environment where this happens is where a ditransitive verb would violate Choctaw's clitic co-occurrence restrictions, if the agreement morphemes were realised, as in (73) (see Tyler 2019a for discussion of clitic co-occurrence restrictions, and their repairs, in Choctaw monotransitives).

(73) Chishn-ano a-chaffichi-ha?
you-OBL.CONTR 1SG.DAT-send-PST.Q
'Did they send YOU to me?'

Another context where an argument is present but does not necessarily get indexed by overt agreement is when the argument is a focused pronoun. Broadwell & Martin (1993) show that, at least for some Choctaw speakers, in the presence of a focused pronoun, ERG subject agreement and ABS object agreement are optional (though the variety documented by Tyler 2019b does not permit focused pronouns to be omitted

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in this way). In sum, there is evidence against the idea that all Choctaw arguments must be in an agreement dependency.[32]

The third option, which I believe is most promising, invokes Kinyalolo's Constraint, which suppresses the realisation of all but one featurally identical agreement morphemes within a single morphological word (Kinyalolo 1992, Carstens 2003, 2005, Baker 2012, Baker & Kramer 2018, Tyler & Kastner 2022). In an analysis that employs this constraint, both $\text{Voice}_{[-\text{N}]}$ and the lower head (*v* or Appl) would agree with the internal argument. Then, at some later point in the morphological derivation, after it has been established that the *v*/Appl and $\text{Voice}_{[-\text{N}]}$ heads are realised within the same morphological word, the exponent of *v*/Appl's agreement features are suppressed, because having identical agreement features within the same morphological word violates Kinyalolo's Constraint.

An account based on Kinyalolo's Constraint does not have the downsides of the other analyses: it permits configurations like (72) in which one argument is indexed by multiple agreement morphemes, provided that the agreement morphemes are in separate words; and it also permits configurations like (73) where, under particular circumstances, an argument is not indexed at all. I leave this explanation here, since I'm not able to distinguish between the predictions of more fine-grained potential analyses.

5.3. *Against a dependent case analysis*

I have assumed thus far that ERG-indexed NPs in Choctaw are those which enter into an agreement dependency with Voice. This follows in the tradition of INHERENT ergative theory, which holds that ergativity (ergative case or ergative agreement) is tightly bound to an agentive thematic role, which is itself tightly bound to the external argument position (here, Spec-VoiceP) (Butt 1995, Woolford 1997, 2006, Legate 2008, 2012, a.m.o.). However, there are other analyses of ergative alignment which divorce the property of being morphologically ergative from the property of having an agent role or being in the external argument position.

The main alternative to inherent ergative theory is DEPENDENT ergative theory (Marantz 1991/2000, Bittner & Hale 1996, Baker 2015, Baker & Bobaljik 2017, a.m.o.). The idea is that where two as-yet-caseless NPs in the same clause are in an asymmetric c-command relation, ergative is assigned to the higher of the two. This higher argument is OFTEN an external argument, as in a canonical agentive transitive, but need not be. Note that this theory is typically framed in terms of ergative case-marking, but it can be augmented to account for ergative agreement patterns too, by having agreement probes that are sensitive to the case of arguments (Bobaljik 2008).

[32] If Choctaw's argument-indexing morphemes are analysed as case-bearing clitics rather than agreement markers (see Section 2.2), a further complication arises for the licensing analysis. In the clitic-doubling analysis, ABS morphemes are analysed as being caseless. If this is correct, then there can be no requirement that all arguments be licensed by case-assignment.

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Dependent ergative theory accounts well for canonical ergative alignment systems, where the ergative status of a subject argument strictly depends on the presence of an object, and is less strictly tied to its agentive semantics. However, it is not well-suited to active alignment systems, where the ergativehood of the subject is not tied to the presence of an object. In order to fit a dependent-ergative analysis to an active system like that of Choctaw, we are forced to propose that unergative predicates like (74) have concealed null objects represented by pro_{OBJECT} (a famous version of this analysis is given by Hale & Keyser 1993).

(74) pro_{OBJECT} **Ii**-hilh-aachi-h.
1PL.ERG-dance-FUT-TNS
'We will dance (a dance).'

One obvious problem is the lack of evidence for these null objects, at least in Choctaw. What is more, it is not the case that adding an object would be sufficient to make the subject ergative anyway (outside of the absolutive promotion – see Section 4.3): various transitive verbs have subjects indexed by ABS or DAT agreement – see the examples in (12c) and (34b). Additionally, Preminger (2012) outlines various conceptual and empirical problems in applying the 'concealed object' analysis to Western Basque, a language with (matched) active case and agreement.

But if there really is a good case for assimilating active systems to dependent ergative systems more broadly, then these null objects could be seen as a small, harmless price to pay in service of a nice, explanatory typology. The problem is that if Choctaw really does have 'low ergatives' – internal arguments that trigger ergative agreement – then it is not clear where the required null objects would be, structurally. The lowest argument 'slot' in the syntactic structure of the clause is already occupied by the internal argument (the ERG NP) and so there does not seem to be anywhere lower for the null object to merge. I thus believe that a dependent analysis of Choctaw ergative, which would have to make use of 'concealed objects' as in (74), is not only unnecessary for Choctaw, but is incorrect.

In the next section, I support my analysis of low ergative in Choctaw: I provide two arguments that ERG agreement crucially requires a dependency between the targeted NP and the VOICE head, rather than some lower functional head.

6. Evidence that Voice is involved in low ergative

I have proposed that in Choctaw 'low ergative' configurations, a ϕ-probe is exceptionally added to $\text{Voice}_{[-\text{N}]}$, and it forms a dependency with the closest internal argument. In this section, I provide two pieces of evidence that low ergative configurations involve a dependency between the NP and Voice, rather than some lower syntactic head that is more local to the NP (e.g. *v*).

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6.1. *Intervening dative arguments block low ergative*

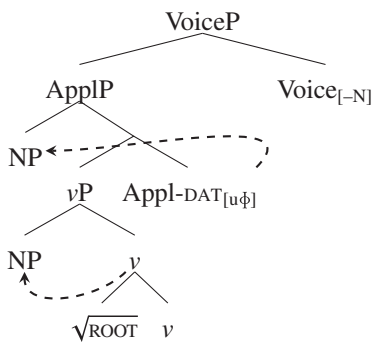
Agreement dependencies are known to be sensitive to INTERVENTION – put informally, a probe cannot ignore its closest eligible goal and form a dependency only with a more distant goal. We can show that low ergative – an agreement dependency between Voice$_{[-N]}$ and an NP in its c-command domain – is sensitive to intervention.

The relevant configuration is in fact the one we saw in Section 3.4: verbs with applied dative subjects, exemplified in (75a). The example in (75b) shows that the basic verb here, *ittola* 'fall', takes ABS subject agreement.

(75) a. *pro*$_{1SG}$ Chi-holisso am-ittola-tok.
2SG.DAT-book 1SG.DAT-fall-PST
'I dropped your book.'
b. Sa-ttola-tok.
1SG.ABS-fall-PST
'I fell.'

In Section 3.4 I proposed, following Tyler (2019a), that verbs with dative subjects have the structure in (76): the applied dative subject is introduced in the specifier of Appl-DAT, and Appl-DAT enters an agreement dependency with it.

(76)



As shown, *v* typically agrees with the theme argument, and so a 1st/2nd-person theme argument will get indexed by ABS agreement (provided it does not run afoul of Choctaw's Person Case Constraint (PCC) restrictions, discussed momentarily). But of particular interest to us is what happens with low ergative roots – i.e. when the root forces a [uϕ] feature to sprout onto Voice$_{[-N]}$, by the rule in (66). I aim to show in this section that the dative argument intervenes in the formation of the agreement relation, and blocks it, as in (77).[33]

[33] Regarding what becomes of the agreement dependency between the internal argument and *v* in low ergative configurations, some potential analyses are discussed in Section 5.2.

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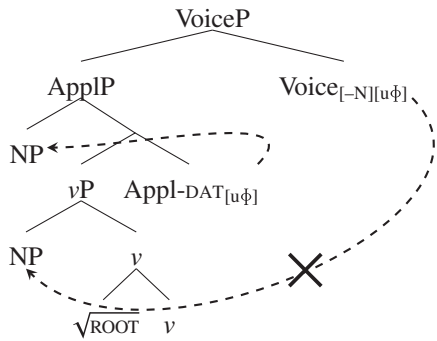
(77)



Quantifier and positional verbs allow us to test this claim: (a) they instantiate low ergative structures and (b) they accept applied dative subjects, as shown for *kahmáya* 'lie.PL' in (78).

(78) a. Yamm-a ii-kahmáya-tok.
there-OBL 1PL.ERG-lie.PL.NG-PST
'We were lying there.'
b. Alíkchi-yat ofi i-kahmáya-h.
doctor-NOM dog DAT-lie.PL.NG-TNS
'The doctor has dogs.'

Therefore we might expect that we could make the object (the possessee) 1st- or 2nd-person (e.g. 'the doctor has me/you'), and inspect whether it is indexed by ERG or ABS agreement. If ERG appears, then the agreement dependency between Voice$_{[-N]}$ and the object has been formed as usual. If ABS, then it has been blocked.

We can see from the examples in (79) that the object cannot be indexed by ERG agreement. This observation supports the claim that Voice$_{[-N]}$ cannot form a dependency with the object.

(79) a. #**Ish**-im-átta-h.
2SG.ERG-DAT-be.NG-TNS
(intended: 'She has you.')
b. *Im-**ish**-átta-h.
DAT-**2SG.ERG-**be.NG-TNS

However, the examples in (80) show that the object cannot be indexed with ABS agreement either.

(80) a. ***Chi**-im-átta-h.
2SG.ABS-DAT-be.NG-TNS
b. *I-**chi**-átta-h.
DAT-**2SG.ABS-**be.NG-TNS

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Fortunately, this is what we would expect given Choctaw's PCC restrictions, which rule out most combinations of ABS and DAT agreement morphemes, in contexts where the DAT argument c-commands the other argument (Tyler 2019a).

Thus we have seen some indirect evidence that a dative argument, merged between Voice$_{[-N]}$ and the internal argument, can prevent a ϕ-probe on Voice from successfully agreeing with the internal argument.

6.2. *Low ergative does not survive a change in Voice head*

I now present a second piece of evidence in support of the claim that low ergative configurations involve a dependency between an internal argument and Voice$_{[-N]}$. The evidence comes from the causative alternation: when Voice$_{[-N]}$ is removed and replaced by Voice$_{[+N]}$, which introduces an external argument, the internal argument is no longer indexed by ERG agreement.

As discussed in Section 4, many intransitive verbs instantiating 'low ergative' structures participate in the causative alternation. With the transitive alternant of a low ergative verb, the internal argument goes from being the subject to being the object. And importantly for this discussion, it goes from being indexed by ERG agreement to being indexed by ABS agreement. An example of an intransitive-transitive pair, with a 1st-person internal argument, is given in (81). The intransitive quantifier verb *móma* 'be all' alternates with its transitive counterpart *momíchi* 'do to all of them' (see Section 4.2).

(81) a. Okl=**ii**-móma-t il-ip-aachi-h.
PL=**1PL.ERG-**be.all.NG-PTCP 1PL.ERG-eat-FUT-TNS
'We will all eat.'

b. **Hapi**-momíchi-t at hapi-písa-tok.
1PL.ABS-all.TR.NG-PTCP come.and 1PL.ABS-see.NG-PST
'She came and visited all of us.'

The change in how the internal argument is indexed (from ERG to ABS) is a consequence of the change in Voice head (from Voice$_{[-N]}$ to Voice$_{[+N]}$) (see Section 3.1). Although both of these Voice heads have a ϕ-probe, Voice$_{[+N]}$ introduces an NP in Spec-VoiceP, which will always be the target of Voice$_{[+N]}$'s probe (on the assumption that probes search their m-command domain, see Section 2.1). Thus the internal argument can never be targeted by Voice$_{[+N]}$'s ϕ-probe. Crucially, if low ergative was associated with a functional head LOWER than Voice, then we would expect that the internal argument of a transitivised low ergative verb like *momíchi* (as in (81b)) could still be indexed by ERG agreement.

The behaviour of alternating intransitive verbs with low ergative subjects (e.g. (81)) can be compared with that of alternating intransitives with DAT-indexed subjects. Unlike the ϕ-probe on Voice which is responsible for ERG agreement, the ϕ-probe responsible for DAT agreement is lower in the structure (below VoiceP), and as a result it survives the change brought on at the VoiceP level by the causative

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alternation.[34] This is illustrated in (82): the internal argument of *i-pitiipa/i-pitiibli* 'worsen/reinjure (oneself)' is indexed by DAT agreement in both the intransitive and transitive alternants.

(82) a. **A**-pitiipa-tok.
1SG.DAT-worsen.INTR-PST
'I got worse.'
b. Okkish-at **a-**pitiibli-tok.
medicine-NOM **1SG.DAT-**worsen.TR-PST
'The medicine made me worse.'

In summary, we have seen two pieces of evidence that low ergative configurations involve a dependency between Voice$_{[-N]}$ and the internal argument.

7. Conditioning the dependency-forming behaviour of Voice cross-linguistically

I have proposed that the dependency-forming properties of Voice heads are not fixed, but may be conditioned and manipulated by rules that make reference to the morphosyntactic context that the Voice head finds itself in. Specifically, in order to account for 'low ergatives' in Choctaw, I have proposed that a [uϕ] feature (a ϕ-probe) may be inserted at an otherwise-non-agreeing specifier-less Voice$_{[-N]}$, by dissociated feature insertion. But this proposal has consequences beyond Choctaw.

In this section I expand the analysis by exploring the possibility, discussed in Section 5.1 with respect to Wood's (2015) analysis of Icelandic *-st* anticausative constructions, that postsyntactic rules may also REMOVE dependency-forming features from Voice$_{[+N]}$ (the Voice head that introduces an external argument). Such rules are essentially IMPOVERISHMENT rules, the counterpart to dissociated feature insertion rules. So if the relevant dependency is an agreement dependency, a language may have a special rule that removes the [uϕ] feature responsible – the results of this are schematised in (83a). Likewise if the dependency is one of case-assignment, a language may have a special rule that removes the [ERG]-assigning feature, with the result schematised in (83b) (note the similarity to Wood's rule in (71)). More broadly, rules of this nature essentially result in the reverse situation from the one I have argued for in this article thus far: they create EXTERNAL arguments that have the alignment properties of INTERNAL arguments.[35]

[34] DAT agreement could be the morphological realisation of a ϕ-probe on Appl-DAT or *v*-DAT – see Section 2.1.

[35] In Choctaw, ERG-indexed subjects become ABS-indexed objects when the verb is causativised (Broadwell 2006: 128). If we assume that Choctaw causatives involve stacking extra functional structure atop a verb root's default VoiceP structure (on which see Harley 2008, Nie 2019), then we will need a way to strip a causativised Voice$_{[+N]}$ head of its ability to launch a ϕ-probe. Under the present analysis, this could be implemented easily by having the causative functional structure trigger a rule like (86a).

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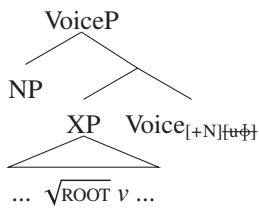
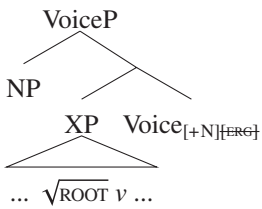
(83) a.



b.



The configurations in (83) encompass both unergative and transitive verbs whose subjects are marked like internal arguments. I discuss these options in turn.

The examples in (84) illustrate unergative verbs whose subjects are marked like internal arguments in Crow and Mohawk, two languages with an active agreement system. In each case, the author of the article explicitly mentions the example in order to illustrate the possibility for individual verbs to buck the semantic generalisation about what conditions the agreement split in that language (note that in (84b), Mithun glosses the patientive agreement as 'patient case' – I reproduce her gloss).[36]

(84) a. **bii-** wíisshi-k
1SG.**ABS**-tell.lie-DECL
'I lie.' (Crow, Ko 2019, reglossed)

b. **wak**yóʔteʔ
'**I** (PATIENT CASE) work.' (Mohawk, Mithun 1991: 535)

Similarly, the examples in (85) illustrate agentive transitive verbs whose subjects are marked like internal arguments, in three languages with active alignment systems. Mohawk has an active agreement system, yet the subject of the verb meaning 'throw' appears with the agreement markers typically reserved for patient/theme arguments. Similarly, while Hindi and Warlpiri both have active case systems, the subjects of the verbs meaning 'bring' and 'provoke' appear with absolutive case, rather than expected ergative case.[37]

[36] For instance, Mithun (1991: 535) remarks, of the example in (84b), '[i]t would seem that no one is more agentive semantically than a worker.'

[37] The classification of Hindi and Warlpiri as having active alignment systems is motivated in Woolford (2015).

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(85) a. ye**wak**átyeʔs
‘**I** (PATIENT CASE) throw (it).’ (Mohawk, Mithun 1991: 534)
b. Kabir-(*ne) vo kitaab laay-aa/*ii
Kabir.M-(* ERG) that book.F bring.PERF-M/*F
‘Kabir brought that book.’ (Hindi, Mahajan 2012: 208)
c. Jinta-kari ka-rla ngirrily-ngirrily-wangka
one-other.ABS PRES.IMPF-3DAT aggressive-aggressive-speak.NONPAST
jinta-kari-ki, kulu-kungarnti.
one-other-DAT fight-in.preparation.for
‘One is provoking the other to fight.’ (Warlpiri, Legate 2012: 187)

Ideally, we would be able to employ diagnostics specific to Mohawk, Hindi, or Walpiri, which would enable us to identify external arguments in each of these languages (‘semantic eyeballing’ can only get us so far). But again, in each of these cases, the author of the article has brought up this example to illustrate the point that there are LEXICAL EXCEPTIONS to the semantic generalisations governing active alignment.

The account provided here allows us to easily capture these exceptional cases. Typically, $\text{Voice}_{[+N]}$ (merged in unergatives and agentive transitives) comes equipped with a [uϕ] agreement feature or a [ERG] case-assignment feature, and forms the appropriate dependency with the argument in Spec-VoiceP. But SOMETIMES, in the context of particular roots or functional heads, the [uϕ] or [ERG] feature is removed by a rule like (86), and no dependency is formed.

(86) a. $\text{Voice}_{[+N][u\phi]} \rightarrow \text{Voice}_{[+N]} \; / \; \sqrt{\text{ROOT1}}$ __
b. $\text{Voice}_{[+N][\text{ERG}]} \rightarrow \text{Voice}_{[+N]} \; / \; \sqrt{\text{ROOT2}}$ __

The analysis does have one outstanding issue, however: what causes ABS agreement or ABS case to show up on the external argument? The external argument is outside the m-command domain of *v*, the head which I have held responsible for forming an ABS dependency with the internal argument in Choctaw. So in languages which exhibit the ‘mismatched’ configuration in (83), *v* cannot be responsible. One possibility is that in such languages, the ABS-related head is located above Voice – and, indeed, there are various analyses that link absolutive case and agreement, in some languages, to a functional head in the inflectional domain (e.g. Bittner & Hale 1996, Aldridge 2008 and others argue that T assigns absolutive).

An alternative explanation, which covers at least those mismatches found in case systems, would hold that ABS-hood, rather than reflecting the presence of a special [ABS] feature gained via a dependency with an ABS-related head, is instead the ABSENCE of an [ERG] feature and reflects nothing more than the absence of a dependency with an ERG-related head. This is the approach pursued in Arregi & Nevins’s (2012) analysis of Basque alignment, and in Tyler’s (2019a) analysis of Choctaw, discussed in Section 2.2. I set this question aside for now.

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8. Conclusion

In this article I have argued that a functional head's dependency-forming features – a cover term for the features that govern whether the head assigns case and forms agreement relations – may be manipulated in the postsyntax by the standard Distributed Morphology operations of dissociated feature insertion and impoverishment. I have focused solely on the properties of Voice, but as we saw in Section 2.1, other functional heads may need to be equipped with dependency-forming features too (in Choctaw: at least *v* and Appl). It is a task for future work to determine whether these and any other functional heads are also contextually manipulable in the way the Voice head is.

In this final section, I briefly sketch what an alternative analysis of Choctaw, and other languages with lexical alignment 'mismatches', might look like. In this alternative analysis, dependency-forming features are immutable properties of functional heads. To account for a verb-specific or configuration-specific mismatch, then, the obvious move would be to expand the range of primitive functional heads available in that language, as in (87)–(88). Voice would not just split into two flavours according to its specifier requirement ('[+/–N]'), but one or both of the Voice heads would then split AGAIN into two more flavours, according to whether or not it had a dependency-forming feature (annotated as [uϕ] or [ERG]). In Choctaw, the head in (87c) does not appear to be attested (hence the parentheses), but I argued in Section 7 that it may well be attested in other languages (Crow, Mohawk).

(87) a. $\text{Voice}_{[-\text{N}]}$
b. $\text{Voice}_{[-\text{N}][\text{u}\phi]}$
c. $(\text{Voice}_{[+\text{N}]})$
d. $\text{Voice}_{[+\text{N}][\text{u}\phi]}$

(88) a. $\text{Voice}_{[-\text{N}]}$
b. $\text{Voice}_{[-\text{N}][\text{ERG}]}$
c. $\text{Voice}_{[+\text{N}]}$
d. $\text{Voice}_{[+\text{N}][\text{ERG}]}$

This is clearly undesirable from the outset – any language with any lexical alignment mismatches will make use of a larger range of functional heads. It is also an unfortunate analysis in some other ways. First, we end up with extra functional heads that differs from other heads only minimally. For instance, the two heads in (87a–b) differ only in the terms of whether or not they have a [uϕ] feature, but they are otherwise identical, not only in their label ('Voice') and specifier requirement ('[–N]'), but also their morphological and semantic properties. This problem multiplies in languages where both a dependency-forming and a non-dependency-forming flavour of $\text{Voice}_{[+\text{N}]}$ can be identified (e.g. a language that has both (87c) and (87d)).

Second, if we accept the conclusion of Bobaljik (2008) that case and agreement dependencies are computed in the postsyntax (something I adopt here), then those

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pairs of heads in (87-88) that are distinguished only by the presence vs absence of a dependency-forming feature are not distinct for the purposes of the syntactic derivation.

Third, the approach in (87-88) deprives us of any easy way to state what is the default and what is the exception. For instance, there is no way to encode that in Choctaw, (87a) is the default while (87b) is exceptional. By contrast, in the model outlined in this article, the 'exceptional' heads in (87b–c) and (88b–c) may only emerge when the default Voice heads are manipulated by special rules.

Fourth, and perhaps most significantly, the 'immutable' approach to dependency-forming features does not follow how we treat variation in the properties of functional heads along other dimensions. Generally, we are happy to acknowledge that while functional heads do serve to bundle together a set of commonly co-occurring syntactic, morphological, and semantic properties, they do not do so exceptionlessly. Contextual allomorphy provides an outlet for variation in the form of a head X^0, without junking the idea that the set of surface forms are all realisations of X^0. Likewise, contextual allosemy (Marantz 2013, Wood & Marantz 2017) allows X^0 to have multiple possible context-dependent interpretations, while its syntactic and morphological behaviour remains uniform. An analysis without allomorphy or allosemy would result in an undesirable proliferation of mostly identical functional heads. So, if it is correct to think of case and agreement dependencies as created in the morphology rather than the syntactic derivation, then we should want to treat contextual variation in dependency-forming features as though it were any other type of allomorphy.

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Author's address: *University of Cambridge, Christ's College, St. Andrew's Street, Cambridge CB2 3BU, UK*
matthewdtyler92@gmail.com

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