Nominals Agree with each other in Coahuilteco[1] *Kenyon Branan NUS kgbranan@nus.edu.sg*

1 Introduction & the puzzle

This paper deals with a typologically unusual pattern of agreement—which I will term *subject-oriented inflection*—in Coahuilteco, an extinct language formerly spoken in southeast Texas and northeastern Mexico.[2] Coahuilteco demonstrates a canonically SOV word order and is generally head-final. There is a singular agreement prefix which reflects the ϕ features of both the subject and internal argument, tense is expressed through a set of short words or particles which follow the verb.

(1) **Basic transitive Coahuiltecan clause**

Dios	*tupo:*	*tawaxa:yo*	*k^we:-x*	*a-p-o:y*	*po:m*
God	DEM	all	DEM-3.ACC	3S-SUB-make	PAST

'God made everything.' *Troike (1981)*

Of particular interest to us is the *-x* marker in (1), glossed as 3.ACC. This marker, and others like it, appears on many internal arguments, as we see in (2), never on subjects. The form of this marker appears to be determined by the ϕ features of the subject, as we see in (2). This is the aforementioned subject-oriented inflection: non-subjects display morphological inflection, determined by the ϕ-features of the subject.

(2) **Examples of sobject-oriented inflection**

a.
Dios	*tupo:*‹-n›	*naxo-xt'e*	*wal*	*wako*
God	DEM-1.ACC	1S-annoy	caus	

'We annoyed God.'

b.
Dios	*tupo:*‹-m›	*xa-ka'wa*	*xo*	*e?*
God	DEM-2.ACC	2S-love	AUX	Q

'Do you love God?'

c.
Dios	*tupo:*‹-t›[4]	*a-pa-k'tace'y*
God	DEM-3.ACC	3S-SUB-pray(PL)

'that (all) pray to God' *Troike (1981)*

In this paper, I will argue that this marker of subject-oriented inflection reflects the presence of an Agree relationship directly between the subject and object. This will require a formulation of Agree in which maximal projections may enter into Agree relationships with each other.[5]

We might first wonder if this marker is part of the verbal complex, which is morphophonologically dependent on the nominal immediately preceding the verb. Evidence from dislocation suggests that this is

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[2] Our sources for this language are primarily García (1760), and subsequent work on the language by Rudy Troike, in particular, Troike (1981, 1996). I adopt here Troike's orthography for the language. When I have adopted Troike's glosses, I cite him; otherwise I cite García (1760) as the source for segmentations, glosses and translations of my own.

[4]Troike (1981, 1996) notes that there are two variants of the third person subject-oriented inflection suffix: *-t* and *-x*. He notes that *-x* tends to be used more frequently when the affix immediately precedes a third person agreement suffix on the verb; however, this is a tendency and not absolute.

[5] See Clem (2019) for a similar proposal about clauses in Amahuaca.

not the case. As we see in (3), it is possible in Coahuilteco for the object to be dislocated to the front of the clause. In such cases, the dislocated nominal is still marked with the subject-oriented marker. This suggests that the subject-oriented marker is not part of the verbal complex.

(3) **Subject-oriented agreement morpheme is not restricted to IBV position**

    a. *pin*   *penitensia-ka -t ,*   *kuta'ce tupo mamik-ax*   *e:*
       thing   penance-what-3.ACC priest   DEM 3SGS.2SGO-give Q

       'What penance did the priest give you?'

    b. *kuta:ce tuče: -m ,*   *mamik-axa:maya:*   *sawx^w am e:*
       priest   DEM.PL-2.ACC 3SGS.2SGO-make.fun.of past   Q

       'The priests, have you made fun of them?'   *Troike (1981)*

The facts in (3) furthermore mitigate against an analysis of the of the subject-oriented marker as a sort of subject clitic which appears in clauses with null subjects. There we see that this marker can appear in clauses with overt subjects when the object is dislocated to the left of the subject. This is likewise true of clauses with overt subjects in which the object appears in its canonical position, as we saw in (1).

    Subject-oriented inflection in Coahuilteco seems to a property of most non-subject nominals. In the absence of a demonstrative to affix to—as in the case of bare indefinite nominals—the marker surfaces as a separate particle, as we see in (4).

(4) **Subject-oriented morpheme can appear without demonstrative**

    a. *pin*   *a-p-šaka:yš*   *ma: , mamik-ka*   *kalo: yam e:*
       thing 3S-sub-bad(PL) 2.ACC 3SGS.2SGO-say DUB PAST Q

       'Have you said bad things?'

    b. *pinwak*   *a-p-šaka:yš*   *ta: ,*   *a-pa-lace:*
       thing.(PL) 3S-SUB-BAD(PL) 3.ACC 3SGS-SUB-say.(PL)

       'They say bad things.'

These facts too suggest that the subject-oriented marker in Coahuilteco is not some sort of subject clitic. Were the marker a clitic, we would not expect its form to be contingent on the presence or absence of a determiner in the nominal it cliticizes to.

    Subject-oriented inflection in Coahuilteco is not tied to thematic role. Rather, it seems to be tied to the position of a nominal relative to the subject of the clause. As we see in (5), locatives and indirect objects may also be marked with a subject-oriented marker.

(5) **Locatives and indirect objects display subject-oriented inflection**

    a. *na-pa-xa:m a-p-sa:*   *apa:-m ux^w a:l'*   *tuk^w e:-m*   *xa:-pa-cu: san*
       my-soul   DEM-2.ACC sky   DEM-2.ACC 2S-SUB-carry FUT

       '(that) you will carry my soul to heaven'

b. *Santos uxʷal' tukʷe-t   a-p-sa*
   saints sky   DEM-3.ACC 3SGS-SUB-BE.AT

   'saints who are in heaven'   *Troike (1981)*

What we see then, in Coahuilteco, is a surprising pattern of agreement that otherwise patterns much like an accusative case marker. This marker never appears on subjects, either of transitive clauses, (1), or of intransitive clauses, (6). This pattern is unusual given what is commonly assumed about Agree: heads may act as probes for Agree [Chomsky (2001, a.o.)], but phrases may not.

(6) **Subjects don't inflect**
a-ha:xʷ tupa: pitupa:moyo i-kʷa:ncam e: i-sa:k e:
3-body DEM always   3s-die   DUB 3s-be Q

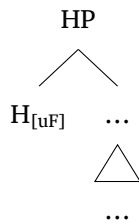'Will the body always be dead?'   *Troike (1981)*

In the following section, I will suggest that the Coahuilteco facts require us to revise our definition of Agree to allow phrases to act as probes. Following that, I will provide an argument against a potential alternative analysis which would preserve a more classical definition of Agree, which allows only heads to act as probes.

2   An account: nominals Agree with each other in Coahuilteco

In this section, I will provide a formulation of Agree under which maximal projections may serve as probes, which will be necessary to capture the Coahuilteco patterns under discussion. I first propose, following Preminger (2014), that agreement phenomenon reflect the application of a syntactic operation, triggered when a particular structural description is met. A crucial feature of this approach is that it will allow both maximal and minimal projections to serve as probes. More common cases of Agree are triggered when a head bearing uninterpretable features enters the derivation, as in (7). Coahuilteco differs from these cases, in that it has a more specific structural condition under which Agree might be triggered: when a DP with uninterpretable features appears in the canonical subject position, which I take to be spec,TP, schematized in (8).

(7) **Structural description: common Agree**   (8) **Structural description: Coahuiltecan Agree**
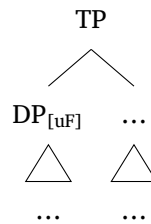
So far, we have one piece of the formalization that we need: we have a mechanism that will allow both heads and phrases to act as probes. There is another piece that needs to be spelled out: that of Agree itself. In particular, we will need a formulation of Agree which allows for 'downward' transmission of features from a probe to its goal. It has long been proposed that Agree is in some sense bidirectional—or at least, in certain circumstances, it can be. Under the model of Agree proposed in Chomsky (2001), uninterpretable

features on a probe may be valued when they are found on a goal; conversely, uninterpretable features on a goal may also be valued when they are found by a probe.

I furthermore propose, following Arregi & Nevins (2012); Himmelreich (2016, a.o.) that Agree be decomposed into two sub-operations: *Find* and *Copy*. *Find* initiates search in the c-command domain of the trigger of Agree, i.e. the probe. *Copy* operates on the link formed by *Find*: features may be passed 'up' the relationship, as in (9), or 'down' the relationship, as in (10).

(9) **Components of head-marking Agree:**

   a. *Find*
     Search the c-command domain of the probe for features of a certain type.

   b. *Copy*
   Copy the features of the goal onto the probe.

(10) **Components of tail-marking Agree:**

   a. *Find*
     Search the c-command domain of the probe for features of a certain type.

   b. *Copy*
     Copy the features of the probe onto the goal.

Given these two assumptions, we now have a way to model the unusual pattern of agreement demonstrated in Coahuilteco. On the account proposed, Agree is triggered when the structural description in (8) is met; furthermore, this Agree relationship is tail-marking, as in (10). As schematized in (11), the result of this is that the ϕ features of the subject are passed down onto the D^0 of the object. These features are then spelled out as the relevant subject-oriented inflection marker; in this case, *-x*.

(11) **Tail-marking Agree in Coahuilteco:**

   Dios tupo: tawaxa:yo k^we:-x   a-p-o:y   po:m
   God DEM all   DEM-3.ACC 3S-SUB-make PAST
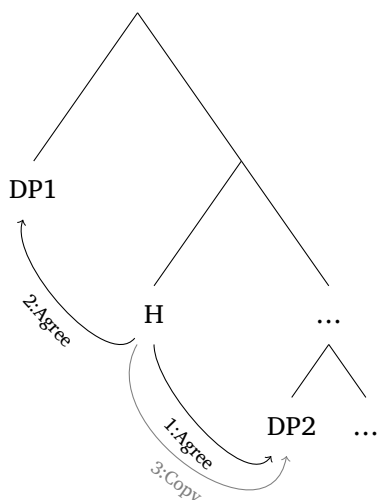
   'God made everything.'   *Troike (1981)*
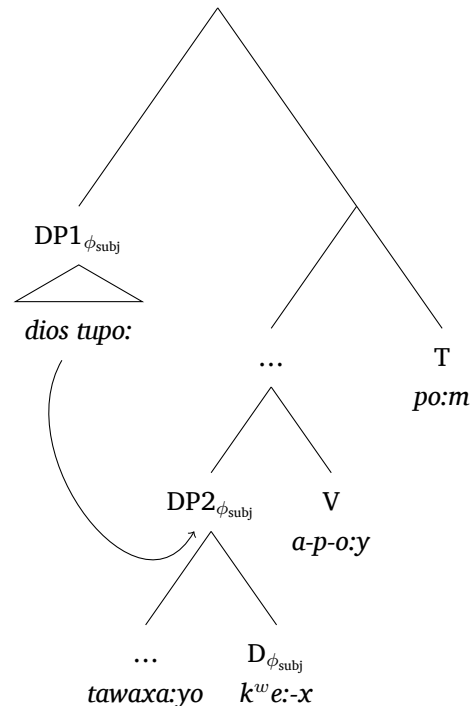
This theory of nominal-nominal agreement should extend fairly straightforwardly to other cases of apparent Agree between two nominals. Analogous facts have been reported in Bond, Corbett, Chumakina & Brown (2016), for Archi and Andi, both East Caucasian, although the patterns of agreement there are less general than those described here.

3 Against an alternative

In the previous section, I provided a formulation of Agree with which we could model the Coahuiltecan pattern of nominal inflection. On the view proposed, both maximal and minimal projections may potentially act as probes. In this section, I will present an argument against a potential alternative, which would allow only minimal projections to serve as probes.

Under this potential alternative, a mediating functional head would be responsible for the downward transmission of ϕ features from the subject onto the object.[6] As schematized in (12), this head would first enter into an Agree relationship with the object in its complement, then enter into a second Agree relationship with the subject, in its specifier[7]—presumably, this is the head which is realized as portmanteau agreement, reflecting the ϕ-features of both the subject and object.[8] This head would then 'copy' the ϕ-features of the subject downward, onto the object.[9] This theory would contrast with the theory developed in the previous section. As schematized in (12), the Agree relationship responsible for transmission of features from the subject to the object is independent of the Agree relationships responsible for portmanteau agreement on the verb.

(12) **Mediating head approach:**   (13) **Direct Agree approach:**
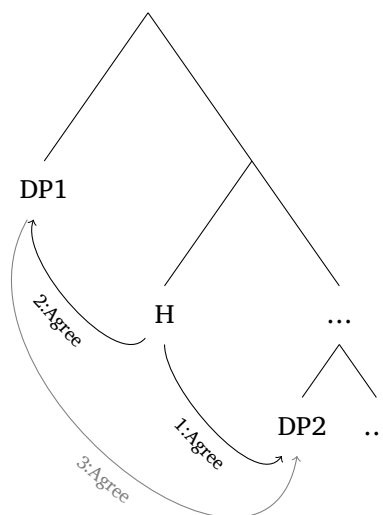
It is possible to tease these two theories apart. On the direct Agree approach advocated for in the previous section, the Agree relationship between the subject and object is independent of the Agree relationship responsible for portmanteau verbal agreement. For this view, a nominal which fails to participate in verbal agreement could nevertheless still be a candidate for Agree by the subject—the system should allow mismatches between verbal agreement and inter-nominal inflection. For instance, as schematized below in (14), an object could fail to control verbal agreement, yet still display subject controlled inflection.

In contrast, on the mediating head alternative, the Agree relationship between the subject and object is necessary for the features of the subject to be copied onto the object. If, as in (15), Agree fails to take

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[6] See Polinsky, Radkevich & Chumakina (2017) for an analysis of patterns of agreement in Archi along these lines.
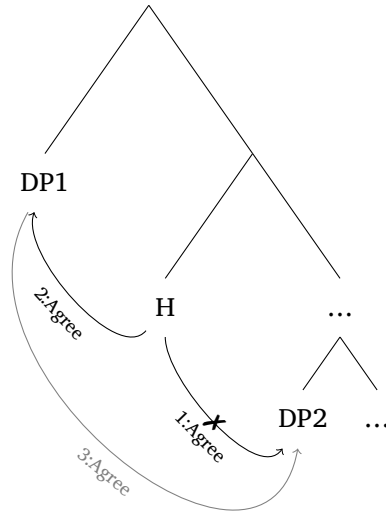
[7] See Béjar & Rezac (2009) for an approach to Agree which would allow this to happen.

[8] See Deal (2010) for an analysis of ergative case in Nez Perce which makes use of such a mediating functional head, albeit with the 'direction' of feature passing being upwards, rather than downwards.

[9] See Pesetsky & Torrego (2001, et seq.) for an approach to Agree in which features are shared between the probe and goal. On this view, the presence of an Agree relationship between H, DP1, and DP2 would result in the features of all three being shared between the three.

place between the mediating head and the object, the features of the subject could not be copied onto the object. On this view, feature copying or sharing between two arguments is contingent on a functional head entering into an Agree relationship with both nominals; if either of these relationships fails to be established, feature copying will necessarily fail as well. This system, in contrast with the direct Agree approach, will not tolerate mismatches between verbal agreement and subject inflection: if an object does not control agreement, it should also be unable to inflect based on the subject.

(14) **Direct Agree: mismatches tolerated**   (15) **Mediating head: no mismatches tolerated**
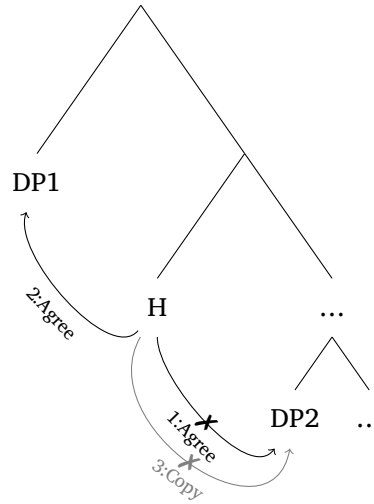
There is evidence which suggests that the direct Agree approach is on the right track. Consider the example in (16). (16) involves an underlyingly unaccusative verb, $k^w ancam$; 'die', with an additional benefactive argument. As we see in (16), the benefactive argument is clearly plural, as its demonstrative includes a formal marker of plurality, -pa.[10] Note that the benefactive displays subject-oriented inflection, as internal arguments in the language tend to do. However, note that the verbal agreement in (16) fails to cross-reference the plural benefactive argument; rather than ak-, the portmanteau agreement morpheme that surfaces when both subject and object are third person and one or both are plural, the portmanteau agreement morpheme a- surfaces. A- appears in two contexts: in intransitive clauses where the subject is third person singular, and in transitive clauses where both the subject and object are third person singular. What we see in (16) is a mismatch between an internal argument—the benefactive, which is plural—and verbal agreement morphology—which fails to reflect the ϕ features of the plural benefactive. Despite this mismatch, the benefactive still displays subject-oriented inflection.

(16) **Inflecting plural argument fails to control agreement and subject-oriented inflection**

matpó	*jagû*	*tu-*$\boxed{pa}$*-xa-t*	$\boxed{a}$*-p-k^{w}ancam*	*pom*
but	man	DEM-$\boxed{\text{PL.HUM}}$-XA[12]-3.ACC	$\boxed{\text{3SGS}}$-SUB-die	past

'…but he died for men.'   *García (1760)*

To make this more explicit, compare (16) with (17), a subordinate transitive clause which has an overt

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[10] See Troike (1996) for a full paradigm of the possible combinations of morphemes that make up the Coahuilteco demonstrative.
[12] Troike (1996) notes the existence of this morpheme in the demonstrative paradigm, but does not classify it. Given the other contexts in García (1760) in which it appears, it could plausibly be a benefactive morpheme. However, in the absence of further evidence for or against this analysis, I will remain neutral, following Troike (1996).

internal argument similar to that which we see in (16), in that it is marked with the same animate plural marker. The verb, *ču:*, has the portmanteau prefix *ak-*, reflecting the plural features of the internal argument, not *a-*, as in (16). We can furthermore be fairly certain that this is not a case of morphophonologically conditioned allomorphy, since the morphophonological context local to the agreement marker is identical in (16) and (17).

(17) **Internal arguments control agreement in the paradigm**

Dios	*tu-po*	*pilam*	*tu-* pa *-t*		ak *-pa-ču:*	*san*
God	DEM-SG.HUM	people	DEM- PL.HUM -3.ACC		3sgS.3plO -SUB-raise	will

'that God will raise up the people.'   *Troike (1996)*

These facts provide an argument for the proposed direct Agree model of subject-oriented inflection on nominals in Coahuilteco, and against a theory that makes reference to a mediating functional head which Agrees with both the subject and object. The direct Agree account leads us to expect there to be a dissociation between verbal agreement morphology and subject-oriented inflection on an internal object; here we have seen such a dissociation. In contrast, the mediating head account does not lead us to expect such facts, and suggests the opposite: that there should be a connection between verbal agreement and the presence of subject-oriented inflection. More specifically, on this view, we expect nominals which do not control verbal agreement to be unable to display subject-oriented inflection.

We might now worry that subject-oriented inflection is *too* unselective to be an Agree relationship; much work (Bobaljik, 2008, a.o.) suggests that Agree consistently fails to target certain elements, in particular 'oblique' arguments, depending on the case that the oblique bears. Coahuilteco subject-oriented inflection is no different—instrumental arguments, which are marked with a particular case particle, *-yo*, cannot control verbal agreement morphology, nor do they display subject-oriented inflection, as we see in (18).

(18) **Plural instrumental fails to control agreement**

…co	*xa-mâux*	*tu-* či *-yo*	*sajpam*	*pinapsa*	mamay *-hô:*	*yam*	*é*
and	2s-hand	DEM-INANIM.PL-INSTR	bad	thing	2SGS-do	PST	Q

'and you sinned with your hands?'   *García (1760)*

Here the portmanteau verbal inflectional prefix reflects only the ϕ-features of the subject. Compare the prefix in (18), *mamay-*, with the one in (19a), *mamik-*, which reflects the ϕ-features of both the subject and object. Then note that the same suffix, *mamay-*, appears in (19b), a clause which lacks an object completely.

(19) **Plural and singular inflection with 'regular' direct objects**

a. *mamik-čapko   yam e*
   2SGS.3PLO-kill PST Q

   'Did they kill you?'

b. *mamay-na:ko yam e*
   2SGS-think   PST Q

   'Have you thought?'   *Troike (1996)*

These are also the sorts of facts that we might hope to find on an approach in which subject-oriented inflection is the outcome of an Agree relationship between two nominals. What the facts we have seen before show us, using terminology introduced in Bobaljik (2008), is that verbal agreement morphology is more discriminating than subject-oriented inflection: the verb may Agree with a subset of nominal types that the subject may Agree with. What these facts show us is that subject-oriented inflection is nevertheless case-discriminating: the case that a nominal bears may render it inaccessible for the Agree relationships responsible for both verbal agreement and subject-oriented inflection.

4 Implications

In this paper, I suggested that patterns of subject-oriented inflection in Coahuilteco motivated an approach to Agree in which maximal projections may serve as probes, alongside heads. If this analysis is on the right track, then it has potentially far-ranging implications, given the importance of Agree in contemporary syntactic theory. I will outline two potential consequences.

A general point of division has to do with the notion of case morphology and Case licensing, and the syntactic relationships that they are connected to. One school of thought—the classical approach—suggests that case and Case licensing reflects an Agree relationship between a functional head and a nominal. Another school of thought argues—the dependent approach—instead that the relevant relationship is one between two nominals, with Case licensing being the result of some other relationship.[13] It has been noted [(Baker, 2015)] that the domains relevant for movement and non-case-related Agree seem also to be relevant for the assignment of case under the dependent approach.[14] The approach here—where nominals can enter into Agree relationships with each other—suggests a way of unifying the two views. The classical and dependent configurations could both result in case assignment, with the difference between the two having to do solely with what serves as a probe: a head, in the classical configuration, and a phrase, in the dependent configuration.

Much work suggests a connection between the presence of an Agree relationship between a head and a phrase, and concomitant movement of the phrase to the specifier position for that head.[15] If nominals can serve as probes, as suggested here, then we might expect to find instances where nominals—or phrases of a particular sort—attract other phrases to them. This is conceptually similar to the notion of *wh*-clustering proposed by Rudin (1988); Saito (1994); Grewendorf (2001); Sabel (2001). These theories would find a natural home in the framework suggested here: phrases should be able to attract other phrases to a position local to them, in much the same way that heads can.

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[13] Although see Branan (to appear) for an argument that the relationship between two nominals may have a licensing function.

[14] See Keine (2019) and Poole (2018) for a different view of locality that restricts both case assignment and Agree relationships.

[15] See van Urk (2015) for the strongest view, where all movement operations are triggered by Agree.

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