

Movement, Minimality and the Meaning of Chains

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Chomsky (1993) suggests that the relativized minimality effects of Rizzi (1990) can be reduced to a violation of a "shortest move" constraint. In all such cases, the moved element "skips" a position it could have reached by a shorter move, had that position not already been filled. In this squib, I examine some facts of wh-movement in K'ekchi Mayan which illustrate that relativized minimality effects are not reducible to such "shortest move" constraints but rather are best explained representationally, that is, as properties of chains and not the movements that create such chains. I will present data which a derivational account of relativized minimality incorrectly predicts to be ungrammatical but a representational account correctly predicts to be grammatical.¹

1. The Facts

1.1 Verb-agreement in K'ekchi

Word-order in K'ekchi is VOS with transitive verbs agreeing with both the subject and object. The agreement pattern is that of a morphologically ergative language. There are two sets of agreement affixes: one for absolutive NPs (i.e., transitive objects and intransitive subjects) and another for ergative NPs (i.e., transitive subjects). The agreement facts are shown in (1):

- (1) a. x- at- ka- ch'aj
tns-abs2p-erg1p-wash
'I hit you'
- b. x- o- a- ch'aj
tns-abs1p-erg2p-wash
'You washed us'

- c. x- at- yajer
 tns-abs2-sick
 'You got sick'

1.2 A-bar movement in K'ekchi: The Ergative Restriction

A-bar movement in K'ekchi is restricted such that Ergative NPs can not be extracted while Absolutive NPs can be extracted freely. I will call this the Ergative Restriction. (2) illustrates the Ergative Restriction on relativization and (3) illustrates the Ergative Restriction on wh-movement.²

In (2a), the subject (absolutive) of the intransitive verb *come* is relativized and the sentence is grammatical. In (2b), the object (absolutive) of the transitive verb *see* is relativized and the sentence is grammatical. In (2c), the only possible interpretation is that in which the object (absolutive) is relativized and not that in which the subject (ergative) is relativized. The Ergative Restriction prohibits (2c) from being interpreted as a subject relative.

- (2) a. qui- \emptyset -oso' li ciunk li qui- \emptyset -chal li plet
 tns-abs3-finish the man that tns-abs3-come the fight
 'The man that came to the fight was finished off'
- b. bar x- \emptyset -a-lok' li mesleb li x- \emptyset -cu-il sa' l-acu-ochoch
 where tnse-abs3-erg2-buy the broom that tns-abs2-erg1-see in the-erg2-house
 'where did you buy the broom that I saw in your house'
- c. x- \emptyset -x-cam li ixk li x- \emptyset -r-il li cuink
 tns-abs3-erg3-die the woman that tnse-abs3-erg3-see the man
 'the woman that the man saw died'
 '*the woman that saw the man died'

In (3a), we see that the intransitive subject (absolutive) may be questioned. In (3b), we see that the only interpretation is the one in which the object (absolutive) is being questioned and not the subject (ergative).

- (3) a. ani x- \emptyset -t'ane'
 who tns-abs3-fall
 'who fell?'

- b. ani x- \emptyset -x-yoc' (ha-an)
 who tns-abs3-erg3-cut (3s-pro)
 'who did he cut?'
 '*who cut him?'

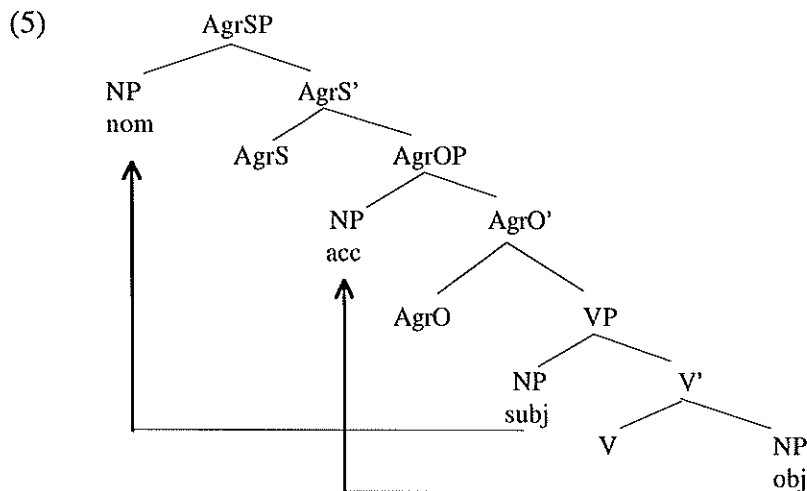
1.3 Reflexivization in K'ekchi: Voiding the Ergative Restriction

There is a systematic exception to the Ergative Restriction in K'ekchi. Ergatives may be moved when the direct object (absolutive) is a reflexive pronoun:^{3,4}

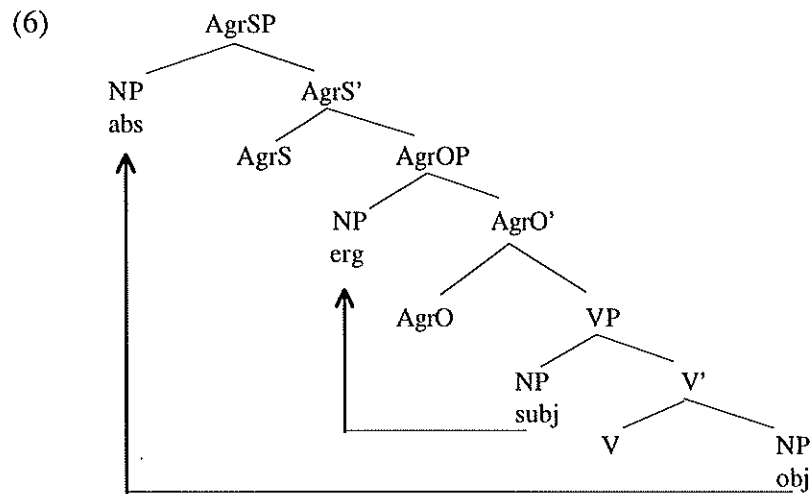
- (4) a. x- \emptyset -x-cam li ixk li x- \emptyset -x-toch' r-ib
 tns-abs3-erg3-die the woman that tns-abs3-erg3-hit her-self
 'The woman that bumped herself died.'
- b. ani x- \emptyset -x-yoc' r-ib
 who tns-abs3-erg3-hit him-self
 'Who hit himself?'

2. Relativized Minimality and the Ergative Restriction

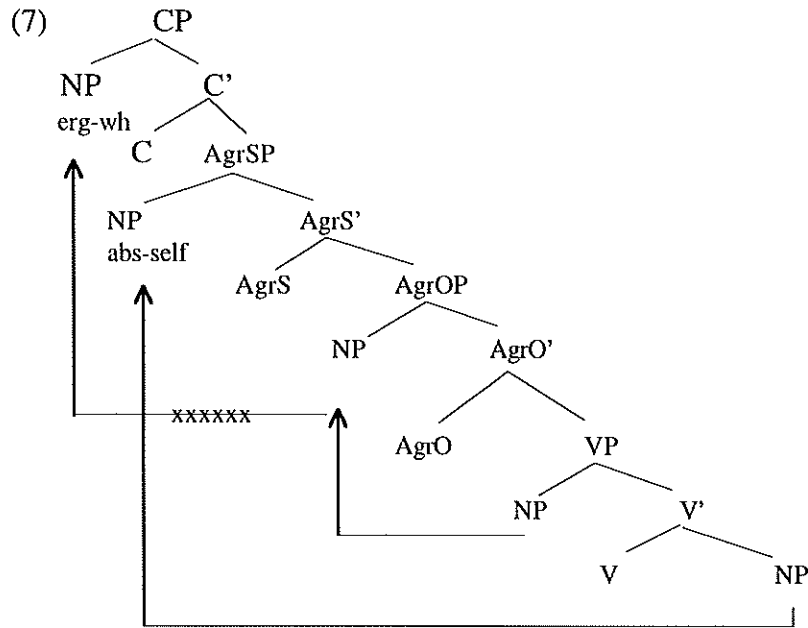
The Ergative Restriction on A-bar movement, found in many ergative languages, arises from the case-assigning properties of these languages, in particular from the structural configurations in which subjects and objects are assigned case. In nominative languages, the thematic subject (i.e., the element base-generated in [spec, VP]) moves to [spec, AgrSP] to check nominative case while the thematic object moves to [spec, AgrOP] to check accusative case, as illustrated in (5) (ignoring the position of TP for ease of exposition).



In ergative languages, however, it is the thematic object which moves to [spec, AgrSP] to check nominative/absolutive case (Bok-Bennema 1991; Campana 1992; Murasugi 1992; Bittner 1994; and Bittner and Hale 1996). The thematic subject then checks its case either in situ or in [Spec, AgrOP].⁵



It is this difference which is responsible for the Ergative Restriction. I follow Campana (1992) and Bittner and Hale (1996) in assuming that [spec, AgrSP] is an A-bar position (at least in ergative languages). Subsequent A-bar movement of the ergative-marked NP past the absolutive-marked NP will therefore give rise to a relativized minimality violation. A-bar movement of the ergative NP will cross [spec, AgrSP], an A-bar position, and so antecedent government cannot be established between the moved NP and its trace since there is a closer potential A-bar antecedent governor:^{6,7}

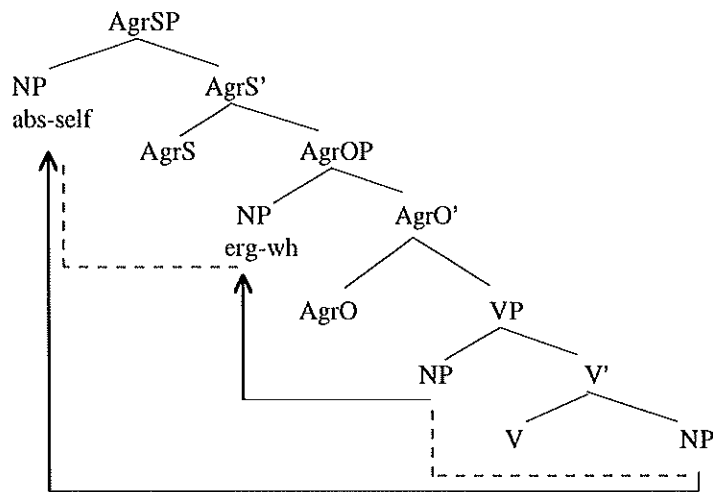


2.1 Derivation vs. Representation

Given the above analysis of the Ergative Restriction, we can then ask why it is that the content of the absolutive NP can alter the effects of this restriction. In other words, why is it that reflexive pronouns obviate the Ergative Restriction? The answer to this question depends both on the syntactic relationship between an anaphor and its antecedent and also on the way that relativized minimality is construed. I will show that only a representational view of relativized minimality (and not a derivational one) can account for the data.

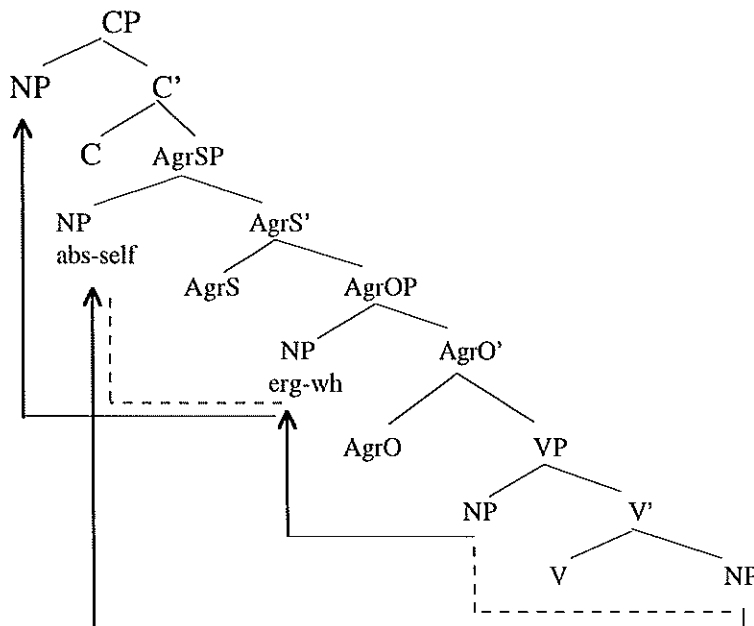
Let us suppose that the relationship between an anaphor and its antecedent is a chain-relation (Reinhart and Reuland 1993; also see Chomsky 1973), giving us the pre-wh-movement representation in (8), where the solid lines indicate movement chains and the dotted lines represent coreference chains^{8,9}:

(8)



If we now move the ergative-NP to [Spec, CP], then we have the representation given in (9):

(9)



On a derivational account, this movement would be blocked by the closer intervening A-bar specifier, i.e., the reflexive pronoun. However, if we construe the chain representing the coreference as part of the chain representing the movement, then although the movement does cross an A-bar specifier, this move can be seen at LF as having passed through that

position. In other words, the reflexive pronoun can be treated as an intermediate trace for the purposes of computing relativized minimality, even though it is connected to a different argument position than the *wh*-word is. If relativized minimality is concerned only with the nature of the chain and whether each of its links is well formed, then the effect of reflexive pronouns on the Ergative Restriction is explained. The chain that stands at the end of the syntactic derivation has no illegal links, even though an illegal link was created at the time of movement.

3. Implications

The analysis presented above has several implications beyond the analysis of relativized minimality. First, if it is true that the anaphor-antecedent relation is a chain relation, then the condition that a chain have only one case-marked element cannot be maintained. Since both the anaphor and its antecedent bear case, then it follows that a chain can contain more than one case-marked element. Reinhart and Reuland (1993) propose that the chain condition be stated so as to require that there be only one fully specified NP (featurally) in a chain. Thus, even though anaphors do have case, they are sufficiently underspecified to meet the requirement due to a lack of ϕ -features. This proposal converges with the results of the present paper, i.e., that chains are not defined in terms of the number of case positions in them.

Second, it also follows from this analysis that the restriction that there be only one thematic role in a chain needs to be relaxed since an anaphor and its antecedent are assigned independent thematic roles. There is nothing inherent in the chain relation which requires such a condition, and so by minimalist assumptions should be excluded. Chomsky (1995) points out that the fundamental difference between thematic roles and other syntactic features lies in their availability for syntactic operations. Thematic roles are assigned to (and from) the tail of a chain while syntactic features are checked in the head of a chain. The prohibition on raising to a theta-position follows directly, since a thematic role could

not be assigned to the moved element. Chomsky illustrates the point through the following example:

(10) *John [_{VP} t' [HIT t]]

At issue is the nonavailability of a verb like HIT which has two thematic roles to assign but only the nominative case feature. What prohibits raising of the internal argument to [spec, HIT] to pick up the external role and then moving further to check case and agreement?

Chomsky claims that this prohibition follows from idea that theta-relations are base properties and cannot be established via movement. The external role cannot be assigned to the moved element and so remains unassigned, in violation of Full Interpretation. We can thus see that it is not a chain with two theta positions that is barred, but rather a chain in which two thematic relations are assigned to the same NP. A chain of the form $\langle -\theta, +\theta, +\theta \rangle$ is blocked only if it is formed by movement. In other words, the only possible way to realize such a chain would be if the two theta positions were related through anaphora and not through movement. There is nothing wrong with the chain in (10), except that the only way to pronounce such a chain would be if it had an anaphor at its tail rather than a trace (Lidz and Idsardi, in preparation).

Finally, if chains are not defined in terms of the number of case or theta positions, then what is a chain, other than the object formed via move or, by assumption, anaphora? The standard conception of the output of the syntactic component as the input to the Interpretive system yields the following minimal conclusion. If all objects that remain at the end of the derivation must be interpretable, chains must correspond to an interpretable object. So, the question is simply which object(s) of the interpretive component chains correspond to. Given that the Interpretive Component minimally deals with individuals and relations, chains must correspond to these objects. N chains correspond to individuals in the discourse while V, P and A chains correspond to relations represented in the discourse.¹⁰ If this formulation is on the right track, then it follows that anaphora involves

a chain relation, since anaphora precisely involves two syntactic elements corresponding to the same semantic entity. Many problems with such a conception arise, particularly with respect to the interpretation of plural and bound variable anaphora (see Fiengo and May 1994), but seems worth pursuing.

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¹ All K'ekchi data comes from Berinstein (1985)

² Berinstein (1985) also gives evidence from various types of focus constructions which illustrate the Ergative Restriction. Space prevents me from giving the full range of relevant constructions here.

³ The effect of reflexive pronouns on the Ergative Restriction in other ergative languages is not seen more widely because most ergative languages have verbal reflexives which detransitivize the verbs they attach to, thereby making the thematic subject appear in absolutive case.

⁴ Appeals to the derived intransitivity of sentences like those in (4) cannot explain these facts away. Certain aspectual affixes which only attach to intransitive verbs cannot be attached to sentences with reflexive pronouns, attesting to their transitivity. (see Berinstein 1985 for data and discussion)

⁵ Details vary across researchers, I will assume the latter option for concreteness, though nothing here hinges on the exact mechanism of ergative case assignment.

⁶ This analysis also predicts that extraction of adjuncts across [Spec, AgrSP] should be impossible. The data on adjunct extraction in K'ekchi is not presently available.

⁷ Note also that the analysis depends only on the supposition that the absolutive element is in an A-bar position, whether or not this is the position to which its case is assigned.

⁸ This does not constitute an assertion that the two kinds of chains are distinct (though they may be), but is simply a tool to enhance readability

⁹ I will ignore the question of how the verb gets into initial position as it is irrelevant to the issue at hand.

¹⁰ I put aside issues of relational nouns and other problems associated with semantic definitions of syntactic categories. The point is simply that N chains correspond to whatever interpretation Ns get in the interpretive component, etc.