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Benjamin F. Elson
SIL-UND

Stephen A. Marlett
SIL-UND

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POPOLUCA EVIDENCE FOR SYNTACTIC LEVELS

Benjamin Elson and Stephen A. Marlett

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0. Introduction

A central claim of relational grammar (Perlmutter and Postal 1983a, 1983c, in press) is that sentences often involve more than one syntactic level. In this respect, relational grammar differs most notably from the majority of other current syntactic frameworks. We present evidence from Sierra Popoloca, a Mixe-Zoque language of Veracruz, Mexico, in support of this claim. The central evidence involves what has been called Possessor Ascension. The constructions for which we claim multilevel analyses are necessary are those which involve advancements to direct object, and Passive.

1. Person and Number Agreement

Sierra Popoloca has a fairly free word order and no case marking for subjects and objects; the independent pronouns are also freely omitted. The predicate (whether a verb or noun) agrees in person with the final nuclear terms (i.e., with the final 1 (subject) and final 2 (direct object)). Number agreement with the final nuclear terms is possible, but is commonly omitted. The morpheme -tam pluralizes non-third persons, and the morpheme -yah pluralizes third person. The person agreement system follows an 'ergative/absolutive' pattern in most clauses (including main, purpose, protasis, and also most complement clauses). It follows a 'nominative/accusative' pattern, however, in time adverbial clauses and certain subject complement clauses.¹ That is, in the former clause types the absolutive/object set is determined by final intransitive subjects as well as final direct objects; in the latter clause types, the ergative/subject set is determined by final intransitive subjects, as well as final transitive subjects. The person markers are given in (1). In the ergative system, the third person ergative prefix occurs only if both of the final nuclear terms are third person. The ergative/subject set is also used on nouns to indicate possessor. The prefix determined by the subject is dropped in imperatives.

(1) Person markers

	ABS/OBJ	ERG/SUBJ, POSS
1exc	a-	an-
1inc	ta-	tan-
2	mi-	iñ-
3		i-

Verb agreement:

In most clauses:

absolutive set determined by final absolutive,
ergative set determined by final ergative.

In time adverbial clauses

and certain intransitive verb complements:

object set determined by final direct object,
subject set determined by final subject.

The ergative/absolutive agreement facts for main clauses are minimally illustrated in (2), and for complement clauses in (3). The time adverbial clauses in (4) and the complement clause in (5) illustrate the nominative/accusative pattern. We gloss the agreement markers according to the construction in which the verb occurs. The same morpheme is therefore sometimes glossed as subject, sometimes as ergative, etc., depending on the type of clause.² (In the next section a third agreement pattern is shown to occur in a certain construction.)

- (2) (a) ta-ho:y-pa
1incABS-walk-INCOMPLETIVE
'You and I take a walk.'
- (b) a-nik-pa
1ABS-go-INCOMPLETIVE
'I am going.'
- (c) a-pi:šiñ
1ABS-man
'I am a man.'
- (d) m-aŋ-ko?c-pa
2ABS-1ERG-hit-INCOMPLETIVE
'I am hitting you.'

- (e) kek-yah-pa
fly-PLURAL-INCOMPLETIVE
'They fly.'
- (3) (a) i-ho:do?ŋ-am iga ku?t-ta:-p
3ERG-know-now that eat-PASSIVE-INCOMPLETIVE
'He knew now that he would be eaten.' (H-51)
- (b) i-?iŋ-um iga ka?a-ne?-um i-wɨdya:ya
3ERG-see-COMPLETIVE that die-DURATIVE-COMPLETIVE her-old=man
'She saw that her old man was dead.' (H-69)
- (c) i-ñi?m-a?y-pa ič a-?i:
3ERG-say-INDIRECT-INCOMPLETIVE 1sg. 1ABS-who
'He said to her, "Who am I?"' (H-112)
- (d) wi: iga mi-ñi-m-tam-pa asi
good that 2ABS-say-PLURAL-INCOMPLETIVE thus
'It is proper that you should say thus.'
- (4) (a) mu an-nik a?ñ-iŋ ca:ñ
when 1SUBJ-go 1ERG-see snake
'When I went I saw a snake.'
- (b) mu i-kek-yah
when 3SUBJ-fly-PLURAL
'When they fly...'
- (c) am-miñ-tyaŋ-wi:m
1SUBJ-come-PLURAL-COMPLETIVE
'When we came ...'
- (d) an-nik-pa:m
1SUBJ-go-INCOMPLETIVE
'When I was going ...'
- (5) dya wi-a:-p taŋ-wity cu?u-kɨ?im
not good-VERBAL-INCOMPLETIVE 1incSUBJ-walk night-LOCATIVE
'We cannot walk at night.'

2. Passive

Sierra Popoluca has a personal passive construction in which the initial subject of a transitive verb is always Unspecified. The verb is marked with the suffix -ta:, as in (6).³

- (6) (a) a-ko?c-tam-ta:
1ABS-hit-PLURAL-PASSIVE

'We were hit.'

- (b) mu i-ko?c-ta:
when 3SUBJ-hit-PASSIVE

'When he was hit...'

- (c) mu i?ñ-iš-tya:
when 2SUBJ-see-PASSIVE

'When you were seen...'

The final subjecthood of the specified nominal of a -ta: clause is supported by the fact that it determines the appropriate agreement affix from the ergative/subject set in adverbial clauses, as in (6b-c). If the specified nominal were a direct object, this fact would not be accounted for.

Perlmutter and Postal (1983a) propose a universal characterization of Passivization which is by now well-known. This characterization, summarized by the stratal diagram in (7), claims that passive clauses are transitive at one level and intransitive at another. A characterization such as (8), while accounting for the subjecthood of the specified nominal in -ta: clauses, does not make this claim.

(7)

(8)

Certain facts in Sierra Popoluca support Perlmutter and Postal's claim. A verb can be preceded by one of a small class of verbs (including motion verbs), which Elson (1960) calls auxiliaries. The auxiliary verb does not carry person or number agreement in this construction, but it carries the aspect suffix. Examples are given in (9). There are two groups of clauses. The first, transitive group includes finally transitive clauses (including clauses with intransitive verbs and derived direct objects) and also passive clauses. The second, intransitive group includes finally intransitive clauses, except passives. Whereas the subjects of the intransitive clause group determine the absolutive/object set (like direct objects) in this construction, the subjects of the transitive clause group determine the ergative/subject set. Examples (9a-b) show these facts for simple transitive clauses, (9c-d) for simple intransitive clauses, (9e) for a finally intransitive clause involving an unspecified direct object, (9f-i) for passive clauses. The intransitive clause group, those in (9c-e), also require a suffix *-i* (which we have not assigned a gloss).

- (9) (a) *nik-pa* *am-me?c* *kawah*
 go-INCOMPLETIVE 1SUBJ-look horse
 'I am going there to look for the horse.'
- (b) *miñ-pa* *ta-ko?c*
 come-INCOMPLETIVE 1incABS-hit
 'He comes to hit you and me,'
- (c) *nik-pa* *ta-mo:ŋ-i*
 go-INCOMPLETIVE 1incABS-sleep-
 'We are going there to sleep.'
- (d) *moh-um* *se:ty-i* *i-tyik-mi* *he?m wiɖya:ya*
 start-COMPLETIVE return- his-house-INSTR the old=man
 'The old man started to return to his country.' (H-230)
- (e) *miñ a-ti?ŋ-o:y-i*
 come 1ABS-chop-UNSPECIFIED-
 'I came to chop (unspecified).'
- (f) *miñ-pa* *taŋ-ko?c-ta:*
 come-INCOMPLETIVE 1incSUBJ-hit-PASSIVE
 'Unspecified will come to hit you and me.'

- (g) miñ-pa i-ko?c-ta:
 come-INCOMPLETIVE 3SUBJ-hit-PASSIVE

'Unspecified will come and hit him.'

- (h) n+k-gak-pa i-?a?m-ta:
 go-REPETITIVE-INCOMPLETIVE 3SUBJ-look=at-PASSIVE

Homšuk biboh ity
 alive be

'Unspecified went back to look at Homshuk; he was still alive.' (H-203)

- (i) moh i-pe:y-ta: dya ka?
 start 3SUBJ-swing-PASSIVE not die

'Unspecified started to swing him, (but) he didn't die.'

How can these facts be accounted for? We propose the following generalization.

- (10) After auxiliary verbs:
 subject set determined by final subject of a clause
 with a transitive stratum
 absolutive set determined by absolutive (level irrelevant).

This generalization is possible, however, only if we posit a bistratal analysis for passives. The final subject of a passive clause is both the 1 of a clause with a transitive stratum, according to Perlmutter and Postal's characterization, and also an absolutive. An ordered disjunctive application of (10) yields the correct person markers. With a characterization of Passive as in (8) no generalization seems possible. The rule for verb agreement after auxiliaries would appear to be best stated as in (11), given this monostratal analysis.

- (11) After auxiliary verbs:
 subject set determined by
 (i) subject of a transitive clause, or
 (ii) subject of a passive clause
 absolutive set determined by absolutive.

The generalization stated in (10) is also not possible if clauses with transitive verbs and unspecified direct objects, such as (9e), are analyzed as Postal (1977) claims. Postal proposed that clauses such as (9e) universally involve initially transitive strata and that in some languages Antipassive renders a finally intransitive clause. We know of no ways in which these clauses function as

transitive clauses in this language, whereas they do pattern with simple intransitive clauses in the construction under consideration here.

We conclude that these facts provide support for the bistratal analysis of passive clauses.

3. Advancements to direct object

A clause containing an Addressee, Recipient, Source, Delegative, or Beneficiary (and probably various others as well), obligatorily involves an advancement to 2 in Sierra Popoluca, with certain conditions. The advancee determines the appropriate person and number agreement rather than the initial 2. The verb is marked with the "indirect" suffix -a?y (except in the case of a Recipient with the verbs či? 'give' and ma?iči? 'sell', which have defective morphology in this respect). Examples are given in (12).⁴

- (12) (a) i-ñi?m-a?y-pa
3ERG-say-INDIRECT-INCOMPLETIVE
- 'He says to him,...'
- (b) i-hi?y-a?y-pa
3ERG-speak-INDIRECT-INCOMPLETIVE
- 'He speaks to him.'
- (c) a-či? he?m kawah
1ABS-give the horse
- 'He gave the horse to me.'
- (d) m-an-to?b-a?y-pa he?m kuči:yuh
2ABS-1ERG-take-INDIRECT-INCOMPLETIVE the knife
- 'I will take the knife away from you.'
- (e) i-wi:cak-pa pwe:nteh
3ERG-leave=good-INCOMPLETIVE bridge
- i-pig-a?y-pa cay
3ERG-get-INDIRECT-INC vine
- 'He fixes the bridge; he gets vine for it.'

- (f) i-ŋkeh-ay we?eñik
 3ERG-show-INDIRECT wasp

'He showed wasps to him.'

The advancee can also become the final subject by passivization, as in (13).

- (13) a-na-nig-ay-tya huktɨ
 1ABS-cause-go-INDIRECT-PASSIVE fire

'Unspecified brought fire to me.'

In (14) the 3 has advanced to 2, resulting in the conditions being met for reflexivization. (Reflexive clauses are finally intransitive, and obligatorily carry both the prefix *na-* and the suffix *-ta:* which we have glossed elsewhere as *PASSIVE*.)⁵

- (14) a-na-ni?m-a?y-tya:
 1ABS- -say-INDIRECT-

'I said to myself ...'

When two nominals eligible to advance occur, both advance to 2, resulting in two occurrences of *-a?y*. In (15a) the Delegative determines absolutive/object agreement, and in (15b) the Recipient (initial 3) determines it.

- (15) (a) a-na-nig-a?y-a?y-ɨ
 1ABS-cause-go-INDIRECT-INDIRECT-IMPERATIVE
- 'Take it to him on my behalf!'
- (b) he?m Petoh he?m šiwan a-na-miñ-a?y-a?y
 the Peter the John 1ABS-cause-come-INDIRECT-INDIRECT

'Peter brought it to me on John's behalf.'

There are numerous questions that such sentences raise which we cannot go into at this time.⁶

Assuming that Addressees, Recipients, Sources, and Beneficiaries are either initial 3s or involve an advancement to 3, we propose the following generalization for the morpheme *-a?y*.

It seems fairly straightforward to claim that Addressees, Recipients, Sources, Beneficiaries, and Instrumentals are final 2s under the conditions described above. It is less obvious, however, that the typical relational grammar analysis is preferable to one in which the Addressee or Recipient, for example, is an initial 2 as well as a final 2. In the next section we present evidence for the non-2hood of certain nominals, evidence which therefore supports a multilevel analysis.

4. Possessor Ascension

The possessor of a noun phrase in Sierra Popoluca often triggers verb agreement. This is illustrated by the examples in (18). The verbs in these examples are also suffixed by the morpheme -a?y.

- (18) (a) šiwan a-ku?d-a?y an-sik
 John 1ABS-eat-INDIRECT my-beans
 'John ate my beans.'
- (b) nɪk-pa m-am-me?c-a?y im-ma:nɪk
 go-INCOMPLETIVE 2OBJ-1SUBJ-look-INDIRECT your-child
 'I'm going there to look for your child.'
- (c) i-hag-a?y he?m custiʃi i-kɪnki he?m wiɖya:ya
 3ERG-cut-INDIRECT the bat(sp.) his-throat the old=man
 'The bat cut the old man's throat.' (H-63)

Note that absolute agreement in (18a) is first person and that in (18b) the direct object agreement is second person. The fact that agreement is not with the third person direct object in (18a-b) needs to be accounted for, as well as the presence of the indirect morpheme -a?y in all three sentences. A currently proposed means of accounting for similar facts in other languages involves what is known as Possessor Ascension. Under this proposal, in the sentences in (18) a copy of the possessor has ascended out of the noun phrase to become a constituent of the clause. We assume an ascension analysis here, although we do not argue for this analysis over alternatives; whether or not an ascension is actually involved is irrelevant to the argument below.

Possessor Ascension in Sierra Popoluca has certain conditions on it, none of which were made clear in previous descriptions of the language. These conditions provide evidence for a multistratal analysis of clauses containing an advancement to direct object and additional evidence for a bistratal analysis of the Passive construction in Sierra Popoluca.

Two types of Possessor Ascension construction appear in the literature. One follows the Relational Succession Law (Perlmutter and Postal 1983b) with the possessor ascending to assume the grammatical relation of its host. This is the analysis which Crain (1979) posits for Chamorro, and Allen, et. al. (to appear) posit for Southern Tiwa. The second, which is argued to exist in Albanian (Hubbard 1980, 1981), Choctaw (Davies 1981), Tzotzil (Aissen 1979), and Georgian (Harris 1981), has the possessor ascending to 3. With the exception of Tzotzil, in each of these languages it appears as a final 3.

The choice between these analyses for Sierra Popoluca is not immediately obvious since, as we have already noted, indirect objects obligatorily advance to 2. Thus, in sentences (18a-c), whether the possessor ascends to 2 à la Relational Succession Law or whether it advances to 3, it would be expected to be a final 2 and therefore trigger absolutive agreement in most clauses. The analysis with ascension to 3 can be motivated for Sierra Popoluca, however. First, the presence of the indirect morpheme -a?y is automatically accounted for under this analysis. It does not follow automatically under the other analysis; a significant loss of generalization therefore results. Second, whereas the host noun phrases in the examples in (18) are all direct objects, there are in fact other possible hosts (discussed below) which are not direct objects at the relevant level. These examples provide the strongest evidence against the analysis by which possessors assume the grammatical relation of their host. Therefore, we proceed under the assumption that the possessor ascends to 3.

If all of the conditions (discussed below) are met, a sentence with Possessor Ascension is preferred to the version without; the Possessor Ascension version is claimed to be "more correct". In some cases, the version without Possessor Ascension is considered unacceptable. In texts which we have examined, sentences in which Possessor Ascension could have occurred (because all of the known conditions were met) but did not are very rare. If the appropriate conditions are not met, however, then the Possessor Ascension version is ungrammatical without question. Therefore, alongside (18a) we also have the less preferred, but grammatical (19a). (19b) is ungrammatical because the indirect morpheme occurs but the possessor does not ascend. (19c) shows that the possessor must be marked in the noun phrase even in the possessor ascension construction.

- (19) (a) šiwān i-ku?t an-sik
 John 3ERG-eat my-beans
- (b) *šiwān i-ku?d-a?y an-sik
- (c) *šiwān a-ku?d-a?y sik

The grammaticality of Possessor Ascension sentences has nothing to do with whether the host noun phrase is a body part or some other intimately related item, or whether the possessor of that item is affected directly or indirectly by the action. Thus, whereas the possessors in (18a-c) are all conceivably beneficiaries or maleficiaries of the actions expressed, this is not the case in examples (20a-b). (20a) is felicitous whether or not John is dead or alive at the time of the purchase.

- (20) (a) an-huy-a?y he?m šiwan i-kawah
1ERG-buy-INDIRECT the John his-horse

'I bought John's horse.'

- (b) šiwan a-?iš-a?y aŋ-kawah
John 1ABS-see-INDIRECT my-horse

'John saw my horse.'

Unlike in Choctaw (Davies 1981), but like in Tzotzil (Aissen 1979), a possessor cannot ascend if it is coreferential with the subject of the verb. (21-25) show that Possessor Ascension is blocked by this condition. In (22) and (23) the possessor is partially coreferential with the subject. In (23) and (24) there is no ergative/subject prefix since the clause is imperative. Possessor Ascension may not occur regardless, showing that the constraint is not morphological.

- (21) (a) nɪk-pa am-me?c an-ha:tun
go-INCOMPLETIVE 1SUBJ-see my-father

'I'm going there to look for my father.' (H-122)

- (b) * nɪk-pa an-ak-me?c-a?y-tya: an-ha:tun
(with reflexive morphology)

- (c) * nɪk-pa am-me?c-a?y an-ha:tun
(without reflexive morphology)

- (22) tan-na?k-pa iñ-ñä:ka
1incERG-decorate-INCOMPLETIVE your-shell

'We (inclusive) will decorate your shell.' (H-161)

- (23) odoy mo?ogi?iy-i tam-ma:nɪk
not bother-IMPERATIVE our-son

'Don't bother our (inclusive) son.' (H-34)

- (24) sɨʔɨp aŋmiʔič-i iʔn-iškuy
 now close-IMPERATIVE your eyes

'Now close your eyes.'

- (25) i-tyɨŋ i-kɨ
 3-ERG-cut his-hand

'He cut his (own) hand.'

In sentences involving third person subjects and possessors, the Possessor Ascension construction (as indicated by the morpheme -aʔy) thus distinguishes reflexive possessives from nonreflexive possessives. Compare (26) below (25) above.

- (26) i-tyɨŋ-aʔy i-kɨ
 3ERG-cut-INDIRECT his-hand

'He cut his (another's) hand.'

- (27) hesɨk moh i-pɨʔn-aʔy čo:mo i-kuyham Homšuk
 then start 3SUBJ-pick=up-INDIRECT old=woman her-ashes Homshuk

i-haʔay-aʔy i-kot kuštyat-ho:m
 3ERG-gather-INDIRECT 3ERG-put sack-in

'Then Homshuk started to pick up the old woman's ashes;
 he gathered hers up; he put them in a gunny sack.' (H-95,96) ⁹

The data given so far do not enable us to clarify which level of subject is relevant to this constraint; (21-27) are all simple active clauses. In Examples (28-29) the possessor cannot be coreferential with the syntactically Unspecified initial 1. (28) cannot be understood as the woman burying her own sandals.¹⁰

- (28) ku:ʔm-ay-ŋe-ta-wom i-kɨʔak
 bury-INDIRECT-DURATIVE-PASSIVE-COMPLETIVE her-sandals

'Unspecified buried her sandals.'

- (29) čɨʔ-aʔ-tya: yuktu:ku mahɨwin i-yoʔoči
 give-INDIRECT-PASSIVE orphan lightning his-shirt

'Unspecified gave the lightning's shirt to the orphan.'

- (31) iñ-yo:mo i-mec-pa kawah
 your-wife 3ERG seek-INCOMPLETIVE horse

'Your wife is looking for the horse.'

- *# iñ-yo:mo mi-me?c(-a?y)-pa kawah
 2ABS-

(latter example means 'Your wife is looking for the horse for you.')

The examples in (30) show that an intransitive subject--whether or not it is "agentive", whether or not it controls the action, is not a possible host for Possessor Ascension. It is apparently irrelevant whether the predicate is unaccusative or unergative (Perlmutter 1978); Possessor Ascension is blocked in either case.

Possessor Ascension is not limited to active clauses, however, as some of the examples above illustrate. Sentences (28-29) are passive clauses, as are the examples in (32).

- (32) (a) a-me?c-a?y-tya:-p an-cĩ:šĩ
 1ABS-look-INDIRECT-PASSIVE-INCOMPLETIVE my-child

'Unspecified is looking for my child.'

- (b) mu am-me?c-a?y-tya:-p an-cĩ:šĩ
 when 1SUBJ-

'When Unspecified is looking for my child...'

We believe that what these sentences show is that the possessor can ascend out of a direct object host and become the final subject of the clause (just as Aissen 1979 claims for Tzotzil), and not that the possessor ascends out of a subject host. Thus (33a) rather than (33b) represents the correct analysis. Sentence (32b) is the crucial example, for in this adverbial clause the possessor determines subject agreement as (33a) but not (33b) predicts.

(33) (b)

Given a bistratal analysis of passives, we are able to state the following important condition on Possessor Ascension in Popoluca (which will be revised slightly below);

(34) Possessor Ascension hosts must be initial transitive 2s.

There are additional data which bear on the correctness of (34). The possessor of a final oblique noun phrase does not ascend. This is shown for final Instrumentals in (35) and for Locatives in (36).

(35) he i-wat-pa kama am-mačityi-mi
he 3ERG-make-INCOMPLETE cornfield my-machete-INSTRUMENTAL

'He is making a cornfield with my machete.'

*# he a-wad(a?y)-pa kama am-mačityi(-mi)
1ABS-

(36) he nik an-tik-i?im
he go my-house-LOCATIVE

'He went to my house.'

*# he a-nig(-a?y) an-tik(-i?im)
1ABS-

Whereas the data presented up to this point all support the claim that Possessor Ascension hosts must be direct objects, no evidence has been shown that the level of direct objecthood is important. The examples in (37) involve direct objects which we claimed in section 3 were not initial 2s but rather initial 3s and Obliques. The significant fact is that these nominals cannot be Possessor Ascension hosts. In (37a) there is only one direct object; since it is not an initial 2, it is nevertheless not an

eligible host.

- (37) (a) he?m šiwān i-hīy-ay am-ma:nīk
the John 3ERG-speak-INDIRECT my-son

'John spoke to my son.'

*# šiwān a-hīy-ay(-ay) am-ma:nīk
1ABS-

- (b) mič oy im-mīgo?y-a?y a?n-a:pa
you go 2SUBJ-lie-INDIRECT my-mother

'You went and lied to my mother.' (H-214)

*# mič oy a-m-mīgo?y-a?y(-a?y) a?n-a:pa
1ABS-

- (c) he?m petoh i-ma?iči? yīp kawah an-tī:wī
the Peter 3ERG-sell this horse my-brother

'Peter sold this horse to my brother.'

*# he?m petoh a-ma?iči?(-a?y) yīp kawah he?m an-tī:wī
1ABS-

- (d) he i-huy-a?y yīp kawah he?m an-tī:wī
he 3ERG-buy-INDIRECT this horse the my-brother

'He bought this horse from my brother.'

*# he a-huy-a?y(-a?y) yīp kawah an-tī:wī

A fact not noted previously is that the possessor can ascend out of an Instrumental that has advanced to 2, as in (38). Recall that example (35) shows that it cannot ascend out of a final Instrumental.

- (38) (a) without ascension

he i-tyīŋ-oy-ka?a-ba am-mačityi-mī
he 3ERG-chop-UNSPECIFIED-INSTRUMENTAL-INC my-machete-INSTR

'He is chopping with my machete.'

Likewise, the hosts of the possessor in the passive clauses in (32) are acting 2s, although not final 2s. At this point one might suggest that, stated in derivational terms, the possessor can only ascend out of a nominal which heads a 2-arc at that stage (and which is also an initial 2 or Instrumental). This alternative makes different claims from (40). Examples such as (42) provide the evidence necessary to establish (40) as correct. These examples, we claim, have the structure shown in (43) for (42c) in particular.

- (42) (a) šiwan i-hi:ʔg-aʔy-aʔy-pa i-kawah
 John 3ERG-lead-INDIRECT-INDIRECT-INCOMPLETIVE his-horse
 'John_i is leading his_j horse for him_{j,k}.'
- (b) i-tyob-aʔy-aʔy i-kuči:yuh
 3ERG-take-INDIRECT-INDIRECT his-knife
 'He_i took his_j knife away from him_{j,k}.'
- (c) i-tyi:wɨ i-čiʔ-aʔy heʔm higante i-pak
 her-brother 3ERG-give-INDIRECT the giant his-bone
 'She gave the giant's bone to her brother.'
- (d) dya wi: iga tan-toʔb-aʔy-aʔy-pa
 not good that lincERG-take-INDIRECT-INDIRECT-INCOMPLETIVE
 heʔm tsi:š-tyam i-wiʔk-kuy iga tan-čiʔi-ba
 the child-PLURAL their-eat-INSTR that lincERG-give-INCOMPLETIVE
 heʔm čimpa
 the dog
 'It is not right for us to take the children's food from them in order to give it to the dogs.'

(43)

The host of the ascension in (43) is not a 2 "at the stage" of the ascension. An alternative analysis in which the ascension occurred in the second stratum would create a 3-chomeur. The advancement of the initial 3 would be blocked. Note, however, that the clauses in (42), with the exception of (42c) which involves the verb 'give', all have double occurrences of the indirect morpheme.

In conclusion, there appear to be at least three significant constraints on Possessor Ascension in Sierra Popoluca.¹² These are stated informally in (44).

(44) Possessor ascension is possible only if:

- (i) the possessor is not coreferential with the initial 1
and
- (ii) the host of the possessor is an initial transitive 2
or an Instrumental
and
- (iii) the host of the possessor is an acting 2.¹³

Each of these conditions can be stated if clauses are represented as having more than one level of grammatical relations.

Many current syntactic frameworks do not posit more than one level of syntactic relations (see Perlmutter 1981, in press). In order for these frameworks to account for the facts described above, it will be necessary for them to appeal to notions other than the surface grammatical relations since these have been shown not to be the most relevant. The obvious alternative in this case would be to attempt to restate (44) in terms of semantic roles. The success to which this can be done can be judged only by examining

specific proposals. Let us consider first the nominals which we designate as initial transitive 2s. In functional grammar (Dik 1978) these nominals have the semantic function "Goal" in most instances, but they also have a zero semantic function according to Dik (pp. 33, 34, 38). The relevant nominals with zero semantic function are those which would be direct objects of state-predications. The verb 'see' in (20b) involves such a nominal. Thus the primary restriction on Possessor Ascension hosts in Sierra Popoluca would necessarily involve a disjunction not needed in our analysis.¹⁴ Furthermore, it is necessary to distinguish between nominals with zero semantic function since some (initial 1s in relational grammar) do not permit Possessor Ascension.

Second, consider the coreference restriction which we state in terms of initial subject. The semantic functions which the nominals corresponding to initial subjects have, according to Dik, are "Agent", "Positioner", "Force", and others with zero semantic function¹⁵. Therefore the necessary generalization cannot be stated in terms of semantic functions in this framework; at best one would have a list of distinct and unrelated semantic functions.

It is entirely possible that some other monostratal syntactic framework could handle these facts if it incorporated a different set of semantic roles. The Popoluca facts may or may not bear on such alternatives. But the third restriction on Possessor Ascension in Sierra Popoluca represents a different kind of problem for these frameworks. This restriction, that Possessor Ascension hosts must also be acting 2s, cannot be replaced by one referring to semantic functions. For the relevant nominals are Goals, those with zero semantic function, and Instruments. But not all Instruments are eligible hosts, as we have pointed out above; only Instruments which have advanced to 2 may host the ascension. While the necessary restriction can be stated using notions that have already been argued for in relational grammar, we do not know that this restriction can be stated in other frameworks.

5. Conclusion

We have presented details concerning Sierra Popoluca sentences involving advancements. Several arguments were given in favor of a bistratal analysis of passive clauses in this language. The first argument was based on person agreement after auxiliary verbs. The central evidence discussed involved the conditions on Possessor Ascension. Two of the conditions refer to initial grammatical relations; a third condition also involves reference to a non-final stratum. Besides supporting the bistratal analysis of Passivization, these conditions provide arguments for a multistratal analysis of other advancement clauses. Recipients, Addressees, Sources, etc., even when functioning as direct objects, do not qualify as hosts for Possessor Ascension. The Sierra Popoluca facts therefore support the typical relational grammar analyses of a variety of clauses and the claim that syntactic theory must recognize more than one syntactic level. It does not appear to be possible to restate these conditions in terms of semantic or thematic functions such as would be attempted in functional grammar or other monostratal syntactic theories.

Footnotes

¹In current Sierra Popoluca speech, time adverbial clauses introduced by cuando (Spanish 'when') in the ergative pattern have for the most part replaced native time adverbial clauses which were described in Elson (1956). Thus the nominative pattern is extremely restricted in present-day speech. We use the native type of adverbial clauses. The agreement on predicate nominals also always follows the ergative/absolute pattern, never the nominative/accusative. Thus, as Elson (1961) indicates, the agreement marker on a predicate nominal is always from the absolute set, regardless of the clause type.

²The fundamentals of Sierra Popoluca morphology and syntax are described in Elson (1956, 1960, 1961) and Lind (1964). Many of these data are taken from these sources as well as from Elson (1947). Needless to say, the analyses presented here differ from those of the sources in certain respects. Text examples from Elson (1947) are identified with the letter 'H'. A version of this paper was read at the winter LSA meeting held in San Diego in 1982. The present version includes facts which were not clear previously and thus supersedes the LSA version. We are grateful to Desmond Derbyshire, John Lind, Charles Speck, David Tuggy and Juanita Watters for commenting on earlier drafts of this paper. The usual disclaimers apply.

³There are only passives of transitive verbs in Sierra Popoluca. Unspecified subjects of intransitive verbs are indicated by another morpheme.

⁴As Elson (1956) points out, the verb nim 'say' which appears in (12a) is basically intransitive. In Sierra Popoluca 3s can advance to 2 from an intransitive stratum, unlike in Tzotzil (Aissen 1979, 1982, 1983).

⁵The morpheme -ta: thus occurs as the only necessary verbal registration in passive clauses, and as part of the registration in reflexive clauses. Passive and reflexive clauses therefore share some morphology, but they are not identical. We do not analyze Popoluca passives as reflexive passives. The necessary generalization for the morpheme -ta:, irrelevant to the present concerns, could be stated as (i), assuming multiattachment in reflexive clauses.

- (i) If nominal a in clause b heads both a transitive 2-arc and a 1-arc, the verb of clause b contains the morpheme -ta:.

In passive clauses the final 1 meets the necessary conditions. In reflexive clauses the necessary arcs are found in the same stratum.

⁶It appears to be the case that such sentences are possible only if one of the advancees is third person. Clauses such as 'He took it to you for me.' are not possible. Similarly, clauses such as 'He showed me to you.' which involves only one advancee do not exist. We propose that some type of constraint such as (ii) exists in Sierra Popoluca.

- (ii) If in a given clause there are two nominals which head 2-arcs, one of them must be third person.

Sentences such as (15a-b) also raise other questions as to the adequacy of the person agreement rule given in (1). It is not clear which nominal is the final 2 in each of these sentences. At this time we are unable to present further evidence in this matter.

⁷Note that the Locative nominal which carries the instrumental suffix in (9d) is not an Instrumental, and it does not advance. This is a non-standard use of the instrumental suffix in Sierra Popoluca.

⁸In (17c) the initial Instrumental carries the instrumental suffix, just as it does in (17e), even though in the former clause it has advanced to 2. The fact that the Instrumentals in (17a-b) do not have this suffix may be due to faulty elicitation. These sentences need to be rechecked.

⁹In that Sierra Popoluca allows Possessor Ascension from an anaphoric 'zero' pronoun, as in the second clause of (27), it differs from Tzotzil (Aissen 1979). To what extent this fact detracts from the argument given there for a syntactic rule of Possessor Ascension is not clear.

¹⁰It may be that coreference with any initial term is not permitted. Otherwise we know of no reason for which Possessor Ascension is blocked in example (iii).

- (iii) č̣i?i-tya: i-p̄i:mi? he?m č̣i:si?
 give-PASSIVE his-power the child

'Unspecified gave the child_i his_i power.'
('The child was given his (own) power.')

The fact that the possessor follows the head in (iii), rather than preceding it as in (27) and (29), does not seem important since the same order is also observed in (18c); (18c), (27), and (29) all involve Possessor Ascension.

¹¹The definition given is:

(iv) Acting Term_x

A nominal node is an acting term_x of clause b if and only if:

- i) it heads a term_x arc, A, with tail b whose last coordinate is c_i, and
- ii) it does not head an arc B with tail b having a term R-sign distinct from term_x and having coordinate c_j, where j > i.

¹²We ignore for the present other examples which involve situations where more than one first or second person nominal is involved. These are discussed in a lengthier version of this paper which is in preparation.

¹³We suggest the following informal definition.

- (v) The nominal heading a 2-arc in a transitive stratum is an accusative.

The second constraint in (44) could be restated as (vi).

- (vi) the host of the possessor is an initial accusative in an Instrumental.

¹⁴If we adopt Perlmutter's (1981) notation for representing the claims of functional grammar with respect to semantic and syntactic functions, we may suggest the following analyses for sentences (18a) (28), and (38b) respectively.

(vii)

(viii)

(ix)

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