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Evidence from Quechua

Author(s): Gabriella Hermon

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THE RELATIONSHIP OF MEANING
AND UNDERLYING GRAMMATICAL RELATIONS:
EVIDENCE FROM QUECHUA*

Gabriella Hermon

University of Illinois at Urbana-Champaign

1. In the history of generative grammar there have been two major approaches to the relationship of meaning and deep syntactic structure. The first approach is that taken by Noam Chomsky (in Syntactic Structures, and later work) and the MIT school of linguistics. According to this approach even though meaning and syntactic structure interact at various levels, they are essentially autonomous and meaning does not directly determine underlying structure (and, hence, underlying grammatical relations).¹

The second approach was taken by Katz and Postal, more fully developed by generative semantics and also adopted by researchers working in the framework of Relational Grammar. (See, for example, Perlmutter (to appear a) "Inversion in Russian and Kannada," and Perlmutter and Postal (1977) "Towards a Universal Characterization of Passivization.") According to this approach, meaning directly determines underlying grammatical structure (or, in a relational theory, the initial grammatical relations). This approach is clearly stated in Perlmutter (to appear a). Perlmutter claims that a strong version of Relational Grammar maintains that the initial grammatical relations of a nominal can be universally predicted from the semantic role the nominal plays in its clause. Thus if two nominals play the same semantic role in their respective clauses, they also bear the same grammatical relation in the initial strata in their respective clauses. This holds not only for cases where the two clauses are in the same language, but also cross-linguistically in cases where the two nominals are in different languages.² I will call this second approach the Semantic Predictability Hypothesis.

In this paper I will not address myself to the question of the nature of the Semantic Predictability Hypothesis or its status in linguistic theory. I have the more limited and modest goal of pointing out a class of counter examples to the hypothesis, drawing evidence from Imbabura, a dialect of Highland Ecuadorian Quechua.

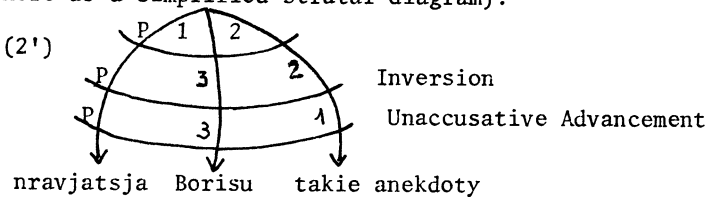
Let us now examine the effects of the Semantic Predictability Hypothesis in a relational theory like that developed by Perlmutter and Postal. In a relational theory one would expect nominals playing the same semantic role to have the same initial grammatical relations. Perlmutter (to appear a) proposes, for example, that experiencers and cognizers are universally initial subjects. In this paper I will concentrate on this claim and show that in the light of Imbabura Quechua data we cannot maintain this hypothesis.

It is important to note that not all counter examples to the claim that experiencers and cognizers are initial subjects turn

out to be valid counter examples. Thus, for example, Perlmutter notes that a superficial comparison of experiencers in English and other languages seems to pose a problem for the claim that experiencers are universally initial subjects. Although in a language like English this hypothesis makes the correct prediction, in Russian experiencers seem to be indirect objects, as can be seen from comparing English (1) to Russian (2).

- (1) Boris likes such jokes.
 (2) Borisu nrajvatsja takie anekdoty
 Boris-dat like-3 pl such jokes-nom
 'Boris likes such jokes.'

Perlmutter shows that in contrast to English, in Russian Borisu does not behave like a final subject: it does not have nominative case marking; it does not trigger verb agreement and it cannot be an Equi victim. However, Perlmutter demonstrates that syntactically experiencers like Borisu are initial subjects in Russian. He does so by showing that the experiencer exhibits behavior typical of subjects such as being the controller of reflexive pronouns and being the victim of Equi in the gerundive construction. He is able to show that one can independently motivate a condition on reflexives and Gerundive Equi referring to (anytime) subjects. Thus, on syntactic grounds we posit a grammar for Russian in which certain initial subjects are demoted to surface indirect objects, sanctioning the following subnetwork (represented here as a simplified stratal diagram):



The construction represented in (2') is known as Inversion. Inversion has been motivated in a similar fashion for experiencers and cognizers in a number of other languages, for example, Georgian, Italian, Kannada and Quechua.

Thus, it has been shown successfully that a class of apparent counter examples to the Semantic Predictability Hypothesis vanishes once we recognize the effects of Inversion. Perlmutter remarks that while this does not in itself establish that initial grammatical relations are predictable, it strongly suggests that further work may be able to eliminate other counter examples in a similar way.

My purpose in examining the Imbabura data is to show that not all counter examples can be eliminated by positing Inversion. More specifically I will show that although in Imbabura we do have an Inversion construction in which experiencers can be shown indepen-

dently to be initial subjects, there is a parallel construction in which the experiencer behaves quite differently and in which we are forced to assume that the experiencer is both a final and initial object.

Why does the Imbabura data present a crucial counter example to the Semantic Predictability Hypothesis? After all, there are many languages in which we have no independent motivation for the claim that experiencers are initial subjects. These are languages in which experiencers do not exhibit any behavior typical of subjects, and in which they group together with other indirect objects. One such language is Hebrew, in which the experiencers in (3) seem to be final indirect objects:

- (3) a. kar li
 cold 1-dat
 ↓
 'I'm cold.'
 b. yeš li ba'aya
 is 1-dat problem
 'I have a problem.'

The experiencers in (3) behave like indirect objects as far as verb agreement and case marking are concerned (just as in the examples from Russian). However, unlike the Russian examples, these experiencers cannot be Equi victims, and cannot relativize with the Ha- strategy. (It can be independently shown that only subjects can be Equi victims and undergo Ha- Relativization.) So we have no direct evidence for the subjecthood of the experiencer in Hebrew. Note, however, that it can be shown independently that in Hebrew Equi must be formulated to refer to final 1s, as distinct from Russian in which Equi into gerundives, for example, has to be formulated to refer to (anytime) 1s.⁵ Moreover, as far as relativization is concerned, we find that in Hebrew only nominals which are both initial and final subjects can undergo Ha- Relativization. Thus, Hebrew clearly does not present a counter example to the Semantic Predictability Hypothesis. We simply lack any independent evidence regarding the initial subjecthood of the experiencer since we failed to find any conditions referring to initial 1s. (Hungarian is another example of a language in which we cannot find independent evidence for the initial 1-hood of experiencers.)⁶ However, since we have no evidence to the contrary, we can assume that these experiencers are initial subjects, and thus are not counter examples to the Semantic Predictability Hypothesis. To summarize, in order to show that not all experiencers are initial subjects, we need a language in which we can independently establish the existence of conditions referring to initial subjects, but in which the nominals in question fail to be analyzed as initial subjects by these conditions (i.e., the experiencers fail to exhibit behavior typical of initial subjects). As I claimed above, such a language is Imbabura. Let me turn to the Imbabura data now.

2. In Imbabura we have two surface patterns in which experiencers can show up, exemplified in (4) and (5) respectively:

- (4) a. (fukata) makita chiriwanmi
 1-acc hand-acc cold-OM-3 pr-val
 '(It) is cold to me the hand.'
 b. (fukata) rina chayawanmi
 1-acc go-nom have to-OM-3 pr-val
 'I have to go.'
- (5) a. (fukata) maki chiriwanmi
 1-acc hand-nom cold-OM-3 pr-val
 '(It) is cold to me the hand.'
 b. (fukata) kanga unguna yariwangui
 1-acc 2-nom-top sick-nom seem-OM-2 pr
 'You seem to be sick to me.'

A limited number of predicates show up in these constructions, usually predicates of physical sensation (like 'be hungry', 'hurt', 'cold', 'hot') and some modals such as 'have to' and 'seem'.

Note that in all the examples in (4)-(5) we have an experiencer or cognizer, which (just as in Russian) does not behave like a final subject. Thus, these experiencers (the underlined nominals) show up in the accusative case (-ta) reserved for direct objects in Imbabura. They do not trigger subject-verb agreement, which is triggered only by final subjects. (This can be observed in (4) and (5).) Moreover, unlike final subjects, these nominals optionally trigger first person object agreement on the verb (the -wa- morpheme in examples (4) and (5)). In Imbabura, only objects can trigger this optional agreement marker; final subjects cannot, as shown in (6a) and (6b) respectively:

- (6) a. Juan (fukata) rikujwanmi
 Juan-nom 1-acc see-prög-OM-3 pr-val
 'Juan is seeing me.'
 b. *(ñuka) Juanda rikujwanimi
 1-nom Juan-acc see-prög-OM-1 pr-val
 ('I am seeing Juan.')

Hence, in Imbabura, just as in Russian, Kannada, Georgian and Italian, experiencers and cognizers are not final subjects but final objects.

What about the initial termhood of these nominals? Can they be shown to be initial subjects (like Russian experiencer/cognizers) and thus not counter examples to the Semantic Predictability Hypothesis? I will show below that in Imbabura the experiencers in (4) differ in their syntactic behavior from those in (5). More specifically, while the experiencers in (4) can be shown independently to be initial subjects (since, as I will demonstrate, they appear in constructions restricted to subjects), the experiencers in (5) behave quite differently: they do not appear in these constructions and, hence, we cannot analyze them as initial sub-

jects. I will claim then that in Imbabura we must allow experiencers to be initial subjects as in (4), or initial objects as in (5), in direct contradiction to the hypothesis claiming that all experiencers must be initial subjects.

Let us turn now to the evidence for this claim. I will first show that we have at least two conditions in Imbabura referring to working 1s and one referring to anytime 1s (1s at any stratum). Informally stated, a working 1 is a nominal which is a subject at some stratum and a final term. Thus in monostratal clauses, subjects are working 1s, in passive clauses the nominal which is the final subject is a working 1 (but not the passive agent) and in inversion clauses the inversion nominal (the experiencer) is a working 1. Secondly, for each such condition I show that the experiencers in (4) satisfy the condition and hence are initial subjects, whereas the experiencers in (5) are not analyzed as subjects by the condition. The data is presented below.

2.1. Switch reference marking in adverbial clauses. Imbabura, like most Quechua languages, has a system of switch reference marking in adverbial clauses which marks the subject of the adverbial clause as identical or non-identical to the subject of the matrix clause.¹⁰ I will concentrate here on the choice of the suffix -shpa which indicates identity of main and adverbial clause subjects. As shown in (7), matrix direct objects cannot trigger -shpa in the adverbial clause:

- (7) *(ñuka) Quitupi kashpa Juan ñukata rikurka
 1-nom Quito-in be-SR Juan-nom 1-acc see-3 past
 ('When I was in Quito, Juan saw me.')

Subjects of simple active sentences trigger the -shpa switch reference marker:

- (8) (ñuka) Quitupi kashpa (ñuka) Juanda rikurkani
 1-nom Quito-in be-SR 1-nom Juan-acc see-1 past
 'When I was in Quito, I saw Juan.'

Passive subjects can trigger -shpa also:

- (9) (ñuka) Quitupi kashpa ñukaka Juan makay tukurkani
 1-nom Quito-in be-SR 1-nom-top Juan beat pass-1 past
 'When I was in Quito, I was beaten by Juan.'

Passive agents cannot trigger -shpa:

- (10) *(ñuka) Quitupi kashpa Juanga ñuka makay tukurka
 1-nom Quito-in be-SR Juan-nom 1 beat pass-3 past
 ('When I was in Quito, Juan was beaten by me.')

The experiencers in (4) can trigger -shpa:

- (11) (ñuka) Quitupi kashpa (ñukata) makita chiriwarkami
 1-nom Quito-in be-SR 1-acc hand-acc cold-OM-3 past-val
 'When I was in Quito, to me was cold the hand.'
- (12) (ñuka) Quitupi kashpa (ñukata) trabajana chayawarka-
 1-nom Quito-in be-SR 1-acc work-nom have to-OM-3 past-
 mi
 val
 'When I was in Quito, I had to work.'

The examples in (7)-(12) justify a working 1 condition on switch reference in Imbabura. This condition can informally be stated as follows: choose -shpa if the subject of the adverbial clause is identical to the working 1 of the main clause. (I will not discuss here what type of subject the identical NP inside the adverbial clause has to be. In fact, it can be shown that it has to be a final 1.) Examples (11) and (12) then show that experiencers must be subjects at some stage (we assume initially). Otherwise we have to considerably complicate the condition on -shpa assignment by saying something like: final 1s and (as an exception) experiencers trigger -shpa.

The experiencers from (5), however, fail to assign -shpa and, thus, behave quite differently from the ones in (4):

- (13) a. *(ñuka) Quitupi kashpa (ñukata) maki chiriwarka-
 1-nom Quito-in be-SR 1-acc hand-nom cold-OM-3 past-
 mi
 val
 ('When I was in Quito, to me the hand was cold.')
- b. *(ñuka) Quitupi kashpa (ñukata) kan unguna yari-
 1-nom Quito-in be-SR 1-acc 2-nom sick-nom seem-
 warkangui
 OM-2 past
 ('When I was in Quito, you seemed sick to me.')

2.2. The same pattern emerges when we consider the condition on assigning switch reference into purpose adverbial clauses. In purpose adverbials, the suffix -ngapaj is employed to express identity of embedded and main clause subjects, and -chun to express non-identity. Looking at the condition on assigning -ngapaj (the identity marker), we notice that in this case the condition does not seem to mention working 1s but seems to refer to anytime 1s (subjects at any level). Thus we can show that main clause direct objects cannot trigger -ngapaj, main clause active subjects can, and so can main clause passive subjects, passive agents and the experiencers in (4):

Direct objects cannot trigger -ngapaj:

- (14) *(ñuka) payta_i makarkani pay_i wakangapaj
 1-nom 3-acc hit-1 past 3-nom cry-SR
 ('I hit him_i so he_i would cry.')

Active subjects (final 1s) trigger -ngapaj:

- (15) (ñuka) wasiman rijuni (ñuka) mikungapaj
 1-nom house-dat go-prog-1 pr 1-nom eat-SR
 'I am going home so that I could eat.'

Passive subjects (final but not initial 1s) can trigger -ngapaj:

- (16) wawaka_i Juan makashka karka (pay_i) mikungapaj
 child-nom-top Juan beat-pass be-3 past eat-SR
 'The child_i was beaten by Juan so that he_i would eat.'

Passive agents (initial 1s and final chomeurs) can trigger -ngapaj:

- (17) aychaka warmi_i yanushkami karka payllataj_i
 meat-nom-top woman cook-pass-val be-3 past her-emph_i
 mikungapaj
 eat-SR
 'The meat was cooked by the woman_i so that she_i could eat it.'

Experiencers as in (4) can also trigger -ngapaj:

- (18) ama mikunata randingapaj (ñukata) yarjawan
 not food-acc buy-SR 1-acc hungry-OM-3 pr
 'I am hungry, so that I will not buy food.'

In (18), yarja- 'be hungry' takes an experiencer, which triggers -ngapaj.

I suggest then that one can formulate a condition stating that in order to have -ngapaj in the embedded clause, the final 1 of the adverbial clause has to be identical to an (anytime) 1 in the main clause. Again, note that the experiencers from (5) do not allow -ngapaj in their embedded clauses (the example here is with the verb yarina 'seem'):

- (19) *kanga maymi trabajanami yariwangui (ñuka) kulkita
 2-nom-top a lot work-nom-val seem-OM-2 pr 1-nom money-acc
 mirachingapaj
 increase-SR
 ('You seem to me_i to work a lot, so that I_i can increase (my) money.')

Again this rules out an analysis of all experiencers as initial subjects.

2.3. The last condition referring to subjects has to do with constructions in which the subject of the embedded clause shows up as the final direct object of the main clause (Subject-to-Object Raising constructions). In this case, we can formulate a condition stating that only working 1s can also be final 2s in the main

clause. This is illustrated below. In (20) the active subject (a working 1) of the embedded clause is also a final direct object in the main clause:

- (20) Juanga ñukata munan shamuchun
 Juan-nom-top 1-acc want-3 pr go-subj
 'Juan wants me to go.'

Example (21) shows that if the final direct object is not the final subject of the embedded clause, ungrammaticality results. In (21) the nominal in question is a final direct object in the embedded clause:

- (21) *Juan aychata munan María mikuchun
 Juan-nom meat-acc want-3 pr María-nom eat-subj
 (Juan wants María to eat meat.)¹²

In (22) we can see that a passive subject (also a working 1) can raise:

- (22) Juan ñukata munan María makashka kachun
 Juan-nom 1-acc want-3 pr María-nom beat-pass be-subj
 'Juan wants me to be beaten by María.'

Experiencers like the ones in (4) can also show up as final direct objects of verbs like muna-, and, therefore, must be initial subjects in the embedded clause:

- (23) brujaka ñukata munan makita chirichun
 witch-nom-top 1-acc want-3 pr hand-acc cold-subj
 'The witch wants me to be cold [in] the hand.'

One can show independently that in (23) ñukata is indeed the final direct object of muna- 'want', but I will not go into details here.¹³ The same can be shown for the experiencer in (4b):

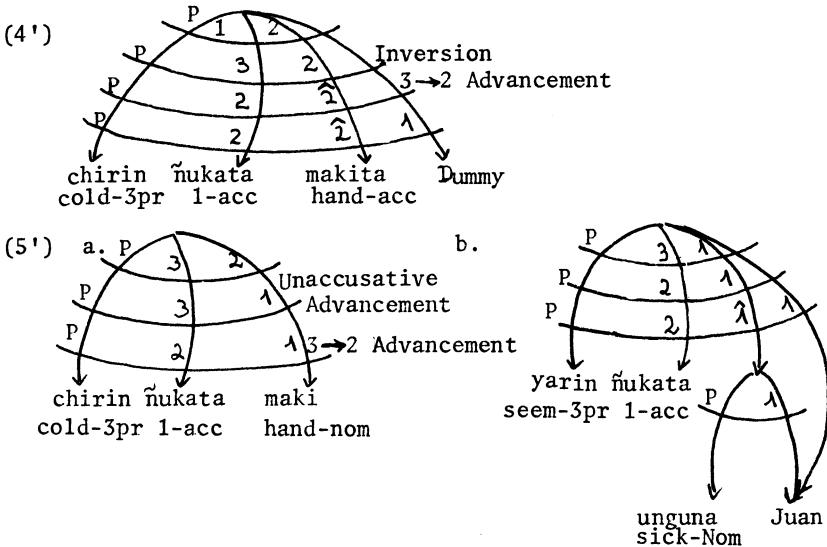
- (24) brujaka ñukata munan trabajana chayachun
 witch-nom-top 1-acc want-3 pr work-Nom have to-subj
 'The witch wants me to have to work.'

The experiencers in (5), however, cannot raise (that is, cannot be the final direct objects of muna-) as shown in (25):

- (25) *brujaka ñukata munan maki chirichun
 witch-nom-top 1-acc want-3 pr hand-nom cold-subj
 ('The witch wants me to be cold [in] the hand.')

Similar facts hold for the experiencer of yarina- 'seem'. Again we conclude that the experiencers in (5) cannot be initial subjects.

To summarize, I suggest the following simplified stratal diagrams for the two types of experiencer constructions:



Let me digress here for a moment and point out that the Inversion construction in Imbabura (represented in (4')) differs in a crucial respect from inversion in languages like Georgian, Kannada, and Italian in that the initial 2 is not advanced to 1 by unaccusative advancement, which in these languages applies to the unaccusative stratum sanctioned by Inversion. Instead we seem to get a dummy 1 as the final subject, thus satisfying the Final 1 Law.¹⁴

Also, there is no evidence for assuming that the inversion nominal actually went through a stage of being a 3 and underwent $3 \rightarrow 2$ advancement. Again Imbabura differs in this respect from other languages in which inversion occurs, and in which the experiencer is a surface 3. In Imbabura the experiencer is a final 2: only final 2s are marked by -ta, while 3s are marked by -man. In Imbabura, however, experiencers cannot take the -man case marker, not even optionally.¹⁵ Nothing, however, contradicts a $3 \rightarrow 2$ advancement analysis.

3. Having established that the two types of experiencers behave differently in Imbabura, the obvious question is whether we can find an account for this data which would not necessitate setting up different initial grammatical relations for the two experiencer types.

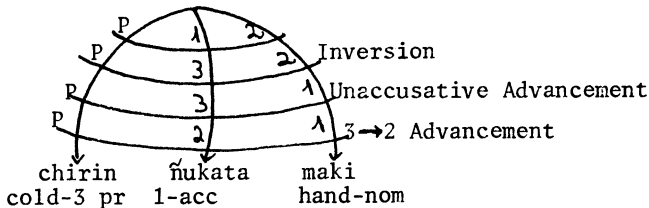
Above I showed that if we assume that Imbabura has conditions referring to working 1s and anytime 1s, some experiencers (those in (5)) cannot be initial 1s.

An alternative approach to the Imbabura data, which I shall reject below, would be to claim that we misformulated our condi-

tions in Imbabura. Under this analysis the conditions do not actually refer to working 1s or 1s at all, but are formulated in a different fashion. Note that the biggest difference between the two experiencer types is that the type in (4) does not have a (lexical) surface subject (final 1), whereas the one in (5) does. What if we reformulate our conditions in the following way: The highest ranking nominal in the clause (excluding dummies) is the trigger of -shpa or -ngapaj (in adverbial clauses).

This (given we can really exclude dummies from the hierarchy of grammatical relations) will correctly pick out the experiencer in (4') over other nominals (since a 2 ranks higher than a 2). For the experiencers in (5) we can then assume the following kind of subnetwork (replacing (5')), where the experiencer is an initial subject:

(5'')



If we assume that the conditions refer to the final strata, the highest ranking NP here would not be the experiencer but maki 'hand' and the conditions would correctly pick that nominal over the experiencer. (Indeed, in Imbabura it is this NP which triggers -shpa and -ngapaj in adverbial clauses and undergoes raising, as shown in Hermon (forthcoming).)

Thus we could save the generalization that all experiencers are initial subjects and have the differences in their behavior fall out from the different subnetworks for (4) and (5) (namely (4') and (5'')) and the way we formulated our conditions.

Note, however, that formulating the conditions to refer to the 'highest ranking nominals' (excluding dummies) cannot predict (26):

- (26) tamyashpa (ñukata) chiriwanmi
 rain-SR 1-acc cold-OM-3 pr-val
 'When it rains, I am cold.'

In (26) the adverbial clause has a final dummy 1 and so does the main clause after Inversion. Note that -shpa is acceptable here, showing that the condition on triggering -shpa must not exclude dummies. Also, formulating the condition to refer to "highest ranking nominal" incorrectly predicts that (27) should be grammatical. In (27) paypaj is in initial position in the main clause and there is no other possible trigger, yet it fails to trigger -shpa:

- (27) *Juan_i mana trabajashpaca paypaj_i sinchichu karka
 Juan-nom not work-SR-top 3-for_i easy-neg be-3 past
 kulkita tarichunga
 money-nom find-subj-top
 ('When Juan_i did not work, (it) was not easy for him_i to
 find money.')

Furthermore, a condition referring to highest ranking nominal would predict that only the passive subject could trigger -ngapaj into purpose clauses (since it outranks the passive agent -- a final chomeur). Note however, that as was shown in (17), the passive agent triggers -ngapaj (as well as the passive subject, see (16)). Thus the possibility of reformulating the conditions in this way is eliminated.

3.1. A totally different approach would be to claim, that although we seem to have one phonological verb chiri- 'cold', we have two different verbs semantically: chiri-₁ takes an experiencer (as in (4)); chiri-₂ does not take an experiencer, but possibly a patient. Although this would get rid of a counter example to the semantic predictability hypothesis, there is no reason to think that we have such a semantic difference in Imbabura. Examples (4a) and (5a) exhibit no perceptible semantic differences, and speakers claim to be able to use them interchangeably. Also, I could not find any difference in meaning between the English 'it seems to me' and the Imbabura equivalent to 'seem' yariwanmi (5b). Although in English we can analyze to me as an experiencer (and initial 1), in Quechua the experiencer in (5b) is an initial 3.

4. I conclude that the hypothesis that all experiencers are initial 1s cannot be maintained and the relationship between semantic roles (such as experiencers and cognizers) and initial termhood is far more complicated than that suggested by the Semantic Predictability Hypothesis.

It is interesting to note that the data from Imbabura is by no means the only example in the literature where a researcher working in a relational theory was forced to analyze experiencers as initial objects. For example, Gerdts (1980) analyzes experiencers of psych-verbs in Halkomelem as initial 2s.

Moreover, the semantic role of experiencer is not the only counter example to the semantic predictability hypothesis. Williamson (1979) presents evidence from Lakhota which suggests that the strong version of the Unaccusative Hypothesis (which claims that initial unergativity vs. unaccusativity depends on the meaning of the predicate) must be abandoned. Williamson claims that in Lakhota the determination of which predicates are unergative and which are unaccusative is not only language specific, but also to some extent arbitrary.¹⁶

Thus, I believe that there is crosslinguistic evidence that underlying grammatical relations are not entirely semantically determined and are to some extent arbitrarily chosen in different ways in different languages.

Footnotes

*The data for this paper comes from Imbabura Quechua, a Highland Ecuadorian dialect spoken in the Province of Imbabura, Ecuador. The facts given here are based on information provided by Carmen Chuquin, a native speaker of Imbabura, whose generous assistance is gratefully acknowledged. I would also like to thank P. Cole for rechecking these facts with speakers in Otavalo, Ecuador, and Peter Cole, Alice Davison, Pete Landerman and Jerry Morgan for their suggestions regarding various aspects of the analysis presented in this paper.

¹In his more recent work, Chomsky seems to have modified his original views on the relationship of meaning and syntactic structure. For example, in Chomsky (to appear) he claims that all levels of syntactic representation are projections of the thematic structure and subcategorization indicated in the lexicon. (For Chomsky's projection principle, see Chomsky (to appear), chapter 2.2.)

²This differs from Perlmutter's most recent views, which came to my attention subsequent to the presentation of this paper. In that work (to appear b), Perlmutter takes a position similar to that which I shall propose here: that initial grammatical relations are not universally predictable from semantic roles.

³All references to Perlmutter, unless otherwise indicated, are to Perlmutter (to appear a).

⁴See for example Harris (1976) on Georgian, Perlmutter (1979) on Italian and Japanese, Sridhar (1979) on Kannada, Cole and Jake (1978) and Cole and Hermon (1981) on Quechua.

⁵For the notions initial 1, final 1 and 1, see Perlmutter (1979), and Perlmutter (to appear b), where it is argued that linguistic theory needs (at least) five notions of subject to state rules and generalizations in the grammars of natural languages.

⁶For a discussion of experiencer constructions in Hebrew see Hermon (1979) and Hermon (forthcoming).

⁷I discuss only the distribution of experiencers with verbs such as chiri- 'be cold', yarja- 'be hungry', etc. In Imbabura, we also find experiencers as initial subjects of verbs formed by adding the desiderative suffix -naya to the verb stem. These desiderative experiencers are not relevant to our discussion in this paper.

⁸Imbabura has a rule of pronoun drop, which (optionally) deletes all subject pronouns and object pronouns which are marked on the verb.

⁹See Perlmutter (1979) in which the notion working 1 is motivated for linguistic theory.

¹⁰For a general description of the grammar of Imbabura Quechua see Cole (to appear).

¹¹The subject pronoun in the adverbial clause can be deleted optionally, if the adverbial marker is -shpa indicating identity with the subject of the matrix clause.

¹²Note that (21) is grammatical on a different reading: 'Juan wants the meat so that María eat (it).' On this reading, aycha 'meat' is an initial matrix object and does not bear any grammatical relation to the predicate of the embedded clause.

¹³See Cole and Jake (1978) for such arguments.

¹⁴For the Final 1 Law see Perlmutter and Postal (to appear). Note that the Unaccusative Hypothesis, in conjunction with the Final 1 Law, allows for two possible situations: (a) the 2 of the unaccusative stratum can be advanced to 1 (as in Italian and Kannada), or (b) a dummy can head the final 1 arc. My claim is that in Imbabura both possibilities are realized: in the inversion construction (exemplified in (4)) a dummy is inserted to satisfy the Final 1 Law, whereas in other experiencer constructions (exemplified in (5a)) Unaccusative Advancement applies. This was illustrated in (4') and (5'a) respectively.

¹⁵For a detailed discussion and motivation of the arc pair networks of inversion constructions in Imbabura, see Hermon (forthcoming), in which 3→2 advancement and unaccusative advancement are motivated for Inversion in Imbabura. Also note that if we incorporate Perlmutter's Active Dummy Law (Perlmutter, 1981) then the dummy in (4') could only have been inserted as a 2. This in itself provides a theory internal argument for 3→2 advancement of the inversion nominal in Imbabura: at the stratum following inversion, where the dummy 2 is inserted, the inversion nominal cannot be a 2; otherwise it would be demoted to a 2 by the newly inserted dummy 2. Thus, we must assume that the inversion nominal has a 3 arc at the stratum where the dummy 2 is inserted and is only advanced to a 2 at a subsequent stratum.

¹⁶The Lakhota facts, and similar facts from Achenese, are the type of data which led Perlmutter (to appear b) to reformulate the strong version of the Unaccusative Hypothesis. According to this weaker form of the Unaccusative Hypothesis, unergativity vs. unaccusativity is postulated on syntactic grounds but is not predictable from the semantics of the clause (see Perlmutter (to appear b, pp. 500-501)).

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