

Voice Phrases and Their Specifiers

Abstract

This paper sketches a particular aspect of the active/passive distinction and tries to attribute all syntactic properties of these modes to the behavior of a single functional projection. The paper is organized in two parts. Part I is devoted to a discussion of the voice distinction in Toba Batak. It is argued that a correct syntactic description of the data involves movement of the subject in the Passive Mode and movement of the object in the Active Mode. The landing site of both types of movement is the specifier of a functional projection called the Voice Phrase.

Part II contains a broader discussion of passivization across languages. It is argued that passive phrases in German or English exhibit the same kind of movement as Toba Batak, but whereas the Specifier of the Voice Phrase in Toba Batak contains an overt category, it must contain a silent category (pro) in other languages. Thus, the apparent difference between these types of languages results from a lexical property of the head of the Voice Phrase, i.e. the passive morpheme: Usually, this head requires an empty category as its specifier, whereas in Toba Batak it requires overt realization of the subject in that position. I will also relate further parameters (e.g. the existence of transitive and impersonal passives) to properties of the lexical head of the Voice Phrase.*

PART I: Toba Batak Phrase Structure

1 Verbal Morphology

Toba Batak has relatively poor inflectional morphology. Since there are no morphological Case distinctions, let alone other inflectional morphemes on nouns (except perhaps for lexicalized vocatives; cf. Nababan (1981, p. 73)), almost all inflection is verbal. Table 1 taken from Nababan (1981) presents a survey of verbal morphology and possible combinations of morphemes (see next page).

Lack of space does not permit any discussion of the system; for a full description see Percival (1981) and Nababan (1981). The only relevant morphemes I will be discussing

*The material on Toba Batak was presented at the GGS Meeting in Tübingen, May 1994. The present text also served as the basis for a talk presented to the FAS Berlin in November 1994. I wish to thank the members of FAS for the opportunity to discuss and publish my talk in this series; moreover, I would like to thank Kirsten Brock, Gereon Müller, Peter Staudacher, Chris Wilder, and Ilse Zimmermann for comments and criticism.

The discussion of Toba Batak is based almost completely on an unpublished reader edited by Paul Schachter; see Schachter (1984b) in the references. According to Ed Keenan (p.c.), this volume is still available from U.C.L.A.

The analyses in both parts of the paper are admittedly sketchy, for the basic reason that much more data and research is needed to reach more firm conclusions. Besides, the data on Batak are based on only one informant's judgments, a situation that should change in the light of the fact that by now there is a direct flight connection from Frankfurt to North Sumatra. For various reasons I must leave it to others to complete this line of research.

WOLFGANG STERNEFELD

	-2 Mode/ Actor ref.	-1 Aspect	stem	+1 Aspect	+2 Mode	+3 Actor/Object
ASPECTS:						
Iterative				-i ₁		
Intensive-instrumental				-hOn ₂		
Explicit plural		paŋ				
ACTIVE MODES:						
Simple	maŋ					-sa (Obj.)
Completive-participial	UM-					-sa (Obj.)
Distributive	masi-					
PASSIVE MODES:						
Simple	hu-					
	ta-					
	di-					
Completive-participial	hu-					-nami, etc. (actor, except 1st sg. & 1st incl.)
	ta-					
	NI-					
	(NI				-an) ₁	
Promissory					-On	-hu -nami, etc. (Act.)
					-an	
					-OttOn ₂	
					(absolute use)	
Potential	tar-					
	(ha				-an) ₁	
RECIPROCAL VOICE:	(masi-				-an)	

Table 1 (from Nababan (1981, p. 74))

Toba Batak Phrase Structure

pásak ‘beat’; búat ‘take’	ASPECTS			
	Simple	Iterative	Intensive-instr.	Explicit plural
ACTIVE:				
Imperative	pásak	pasáhi	pasákkOn	pabbúat
Simple	mamásak	mamasáhi	mamasákkOn	—
Completive-participial	uppásak	uppasáhi	uppasákkOn	—
Distributive	masipásak	masipasáhi	masipasákkOn	masipabbúat
PASSIVE:				
Simple	dipásak	dipasáhi	dipasákkOn	dipabbúat
Completive-participial	pinásak	pinasáhan	pinasákkOn	pinabbúat
Promissory	pasáhOn	pasáhan	pasakkÓnnOn	pabbuátOn
Potential	tarpásak	hapasáhan	tarpasákkOn	tarpabbúat
RECIPROCAL:	masipasáhan	—	—	—

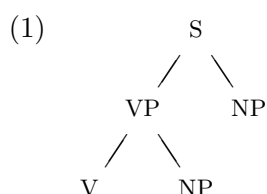
Table 2 (From Nababan (1981, p. 74))

here express a distinction between what are called the Simple Active Mode and Simple Passive Mode. Within the latter we find three different morphemes: *hu-* for ‘first person exclusive’; *ta-* for ‘first person inclusive’; and *di-* for ‘non-first person.’ Examples in this paper will be restricted to non-first person subjects, i.e. the forms *may-* in the Active Mode, and *di-* in the Passive Mode.

Just to give a superficial impression of how the inflectional system works, I have included paradigms for the verbs *beat* and *take*, which show that many of the morphemes from Table 1 cannot freely combine with each other; e.g. the +1 and –1 positions are mutually exclusive; +2 and –2 positions are either mutually exclusive or are occupied by discontinuous morphemes. Some these combinations are listed in Table 2.

2 The West Coast Analysis

Toba Batak is a head initial language. The basic syntactic structure proposed by Schachter (1984*a*), Sugamoto (1984), Wouk (1984), Clark (1984) and others is the one shown in (1):



The most relevant feature of all the analyses in Schachter (1984*b*) is that (1) is the surface structure for the minimal pairs of sentences in (2):

- (2) Trigger-System for θ -assignment:

- a. Mang-ida si Ria si Torus.
 +AT-see PM Ria PM Torus
 ‘Torus sees Ria.’
- b. Di-ida si Torus si Ria.
 –AT-see PM Torus PM Ria
 ‘Ria was seen by Torus.’

+AT = actor-trigger prefix;

–AT = non-actor = patient-trigger prefix;

PM = person marker

It is claimed that the deep and surface structures for active and passive clauses are precisely the same, so that despite different interpretations their constituent structure remains identical in both modes. In particular, there is no absorption of the so-called “external” theta role. What triggers the correct assignment of theta roles – with the “external” theta role being assigned outside of VP in active, but to the object position *inside* VP in passive sentences – must therefore be attributed to different morphemes, of which I will consider only *mang-* (often written as “mang”) and *di-* in what follows.

In sections 3 and 4 I will briefly summarize the evidence that has been advanced in support of this analysis; see Schachter (1984*a*) for a more detailed discussion. I will also discuss some of the further theoretical consequences that ultimately count against this analysis. An alternative treatment will be presented in sections 5 to 7.

Before proceeding it should be pointed out that the distinction labeled active/passive in Percival (1981) and Nababan (1981) can also be subsumed under aspectual distinctions that have been paraphrased in the above glosses as a distinction of tense; cf. Wouk (1984). These aspectual influences on semantic interpretation might well account for the often quoted observation that in narrative discourse passive sentences are far more frequent than active ones. Note also that the reluctance to simply equate aspectual distinctions with the usual distinction of voices partly explains the terminology chosen in the literature, e.g. the description of the *mang-*morpheme as an “actor trigger” in the above framework, and that of its counterpart *di-* as a “patient trigger.” In general, however, I will stick to traditional terminology and abstract away from aspectual matters, leaving them to the interpretative component of grammar.

3 Evidence (I)

3.1 Adjacency within VP

One of the facts to be accounted for in one way or another is a certain anti-adjacency condition for adverbs: We never find adverbials between the verb and the internal argument of the VP in (1):

- (3) a. **Nantoari** mangida si Ria si Torus.
 b. *Mangida **nantoari** si Ria si Torus.
 c. Mangida si Ria **nantoari** si Torus.
 d. Mangida si Ria si Torus **nantoari**.

‘Torus saw Ria yesterday.’

- (4) a. **Nantoari** diida si Torus si Ria.
 b. *Diida **nantoari** si Torus si Ria.
 c. Diida si Torus **nantoari** si Ria.
 d. Diida si Torus si Ria **nantoari**.

‘Ria was seen by Torus yesterday.’

An obvious explanation would be that adverbials are adjoined to maximal projections only, hence they cannot appear between the verb and its sister within the VP of the structure in (1).

3.2 Coordination

Evidence in favor of the proposed analysis can also be gained from the fact that both kinds of VPs, i.e. *maŋ*-VPs and *di*-VPs, can be coordinated:

- (5) a. Mangantuk si John jala manipak si Bob si Fred.
 +AT-hit PM John and +AT-kick PM Bob PM Fred
 ‘Fred hit John and kicked Bob.’
 b. Diantuk si John jala disipak si Bob si Fred.
 –AT-hit PM John and –AT-kick PM Bob PM Fred
 ‘Fred was hit by John and was kicked by Bob.’
 c. Mangantuk si John jala disipak si Bob si Fred.
 +AT-hit PM John and –AT-kick PM Bob PM Fred
 ‘Fred hit John and was kicked by Bob.’
 d. Diantuk si John jala manipak si Bob si Fred.
 –AT-hit PM John and +AT-kick PM Bob PM Fred
 ‘Fred was hit by John and kicked Bob.’

Again this is predicted by the structure in (1); granted that the theory permits assignment of different theta roles (i.e. object and subject theta roles) to the one VP external NP-position in a structure like

- (6) [s [VP VP and VP] NP]

the coordinations shown in (5) behave exactly as one would expect.

3.3 Unexplained Asymmetries: Anti-ECP-Effects

There are a number of striking asymmetries between VP-internal and VP-external arguments. These asymmetries have been taken as evidence for the proposed analysis, although their exact nature remains unexplained. For reasons to become obvious I call these asymmetries anti-ECP-effects.

3.3.1 No *wh*-Movement of Internal Arguments

Consider the following questions, which exhibit optional *wh*-movement in some but not all configurations:

- (7) a. Mangida turiturian ise?
 +AT-see play who
 ‘Who is seeing a play?’
 b. Ise mangida turiturian?
 ‘Who is seeing a play?’
 c. Mangida aha si John?
 +AT-see what PM John
 ‘What is John seeing?’
 d. *Aha mangida si John?
- (8) a. Diida si John aha?
 –AT-see PM John what
 ‘What did John see?’
 b. Aha diida si John?
 ‘What did John see?’
 c. Diida ise turiturian i?
 –AT-see who play the
 ‘Who saw the play?’
 d. *Ise diida turiturian i?

The above examples show that for mysterious reasons it is impossible to question the VP-internal argument. We will see in the following subsections that the restriction against movement from this position is totally general.

3.3.2 No Topicalization of Internal Arguments

As indicated by the glosses below there is a fronting process in Toba Batak that parallels topicalization in English. It is readily seen that topicalization is subject to the same restriction as *wh*-movement:

- (9) a. Mamboan ulos angka sisolhot.
 +AT-bring cloth Plural relative
 ‘The relatives bring clothes.’
 b. Angka sisolhot, mamboan ulos.
 ‘As for the relatives, they brought the clothes.’
 c. *Ulos, mamboan angka sisolhot.
- (10) a. Diboan angka sisolhot ulos i.
 –AT-bring Plural relative cloth the
 ‘The relatives brought the cloth.’
 b. Ulos i, diboan angka sisolhot.
 ‘As for the cloth, the relatives brought it.’

- c. *Angka sisolhot, diboan ulos i.

3.3.3 No Relativization of Internal Arguments

Since relativization is akin to *wh*-movement it should obey the same restrictions. This prediction is fully borne out, as evidenced by the following examples.

- (11) a. Manjaha buku guru i.
 +AT-read book teacher the
 ‘The teacher is reading a book.’
 b. guru na manjaha buku i
 teacher Li +AT-read book the
 ‘the teacher who is reading a book’
 c. *buku na manjaha guru i
 Li = Relative clause linker

- (12) a. Dijaha guru buku i.
 –AT-read teacher book the
 ‘A teacher read the book.’
 b. buku na dijaha guru
 book Li –AT-read teacher the
 ‘the book which a teacher read’
 c. *guru na dijaha buku i

3.3.4 No Discourse Deletion of Internal Arguments

Following Huang (1984) discourse deletion basically involves fronting of an empty pronominal category. Since deletion in this theory presupposes movement, the generality of the constraint against “object”-movement would be corroborated by corresponding discourse deletion effects. And indeed these effects exist, as evidenced by the following examples:

- (13) a. Mangida imana do nasida?
 +AT-see 3sg F 3pl
 ‘Do they see him?’
 b. Olo, mangida imana do.
 yes +AT-see 3pl F
 ‘Yes, they see him.’
 c. *Olo, mangida (do) nasida.
 F = Focus-particle

- (14) a. Diida nasida do imana?
 –AT-see 3pl F 3sg
 ‘Was he seen by them?’
 b. Olo, diida nasida do.
 yes –AT-see 3pl F
 ‘Yes, he was seen by them.’

- c. *Olo, diida (do) imana.

To summarize, the West Coast analysis maintains that the above asymmetries necessitate an analysis of the proposed kind, although an ultimate explanation of the observed data seems to be out of reach of the theory. This is because according to standard assumptions we would expect to find the mirror image of the data presented: Usually movement of the VP-internal argument is unrestricted, whereas movement of the external argument is subject to locality constraints.

Contrary to the conclusion arrived at by Schachter et al., I will argue that the data presented in this section strongly count against the proposed analysis, although, as pointed out above, the proponents of (1) use the data in this section as evidence for the asymmetry encoded into (1). I will return to and reanalyze these data in section 6.

3.4 Control

Another asymmetry is readily explained by the proposed structure (1), namely that in control contexts only the VP-external argument can serve as the controllee. Thus, we find the following pattern of control:

- (15) a. ma-nuba [mang-ida si Bob PRO] si John
 AT-tried AT-see
 ‘John tried to see Bob.’
 b. ma-nuba [di-ida si Bob PRO] si John
 AT-tried –AT-see
 ‘John tried to be seen by Bob.’
- (16) a. di-suba si John [mang-ida si Bob PRO]
 –AT-tried +AT-see
 ‘John tried to see Bob.’
 b. di-suba si John [di-ida si Bob PRO]
 –AT-tried –AT-see
 ‘John tried to be seen by Bob.’

4 Role Based Syntax

In this section I am going to quote some observations that have been argued to justify a non-syntactic theory of Dative Shift and Binding. The general form of the argument is the following. Once having established a structure like (1) for all types of clauses in Toba Batak, the data will reveal that a purely syntactic statement of the above mentioned phenomena is impossible. In other words, on the basis of (1) it is impossible to state binding conditions in terms of *c*-command, and likewise one encounters difficulties in stating a general syntactic rule of Dative Shift. From this Schachter et al. derive an argument against a configurational theory of Binding, and in favor of what they call ‘Role Based Syntax.’

The empirical evidence will be presented in the following subsections. I will then, in section 5, revert the direction of argument: While maintaining the usual configurational

theory of Binding, the relevant data will be interpreted as counterevidence against the role based system that was necessitated by the structure in (1).

4.1 Reflexivization

4.1.1 Reflexivization in Simple Sentences

Reflexivization with *mag*-verbs is shown in (17). According to the structure proposed, the anaphor must precede its antecedent. This prediction is borne out.

- (17) a. Mang-ida diri-na_J si John.
 +AT-saw himself
 ‘John saw himself_J.’
 b. *Mang-ida si John diri-na_J.
 +AT-saw himself
 ‘Himself_J saw John.’

Structurally unexpected, however, is the contrast in (18):

- (18) a. *Di-ida diri-na_J si John.
 –AT-saw himself
 ‘Himself_J saw John.’
 b. Di-ida si John diri-na_J.
 –AT-saw himself
 ‘John saw himself_J.’

Here the binding relation is not in accord with c-command, and hence cannot be stated in terms of structure. On the other hand we observe that binding follows the usual pattern. In particular, the indirect object cannot bind the direct object:

- (19) a. Mang-hatahon diri-na_{J/*B} si John tu si Bob.
 +AT-talked himself to
 ‘John talked about himself_{J/*B} to Bob.’
 b. Mang-hatahon diri-na_{J/*B} tu si Bob si John.
 +AT-talked himself to
 ‘John talked about himself_{J/*B} to Bob.’
 (20) a. Di-hatahon si John diri-na_{J/*B} tu si Bob.
 –AT-talked himself to
 ‘John talked about himself_{J/*B} to Bob.’
 b. Di-hatahon si John tu si Bob diri-na_{J/*B}.
 –AT-talked to himself
 ‘John talked about himself_{J/*B} to Bob.’

And the subject can bind both the direct and the indirect object:

- (21) a. Mang-hatahon si Bob si John tu diri-na_{J/B}.
 AT-talked to himself
 ‘John talked about Bob to himself_{J/B}.’
 b. Mang-hatahon si Bob tu diri-na_{(J)/B} si John.
 +AT-talked to himself
 ‘John talked about Bob to himself_{(J)/B}.’
- (22) a. Di-hatahon si John si Bob tu diri-na_{J/B}.
 –AT-talked to himself
 ‘John talked about Bob to himself_{J/B}.’
 b. Di-hatahon si John tu diri-na_{J/(B)} si Bob.
 –AT-talked to himself
 ‘John talked to himself_{J/(B)} about Bob.’

The conclusion drawn by the above authors (cf. in particular Sugamoto (1984)) is that all configurational theories must be wrong, and that Binding follows the well-known thematic hierarchy

“Actor > Patient > Dative”

4.1.2 Reflexivization and Control

The following subsections can be skipped by the impatient reader, who should proceed to section 4.2; they merely demonstrate that reflexivization is “well-behaved” in all other respects. In particular reflexivization is clause bound:

- (23) a. Di-suba si John [mang-ida diri-na_J PRO]
 –AT-tryed +AT-see himself
 ‘John tried to see himself_J.’
 b. *Di-suba si John [di-ida diri-na_J PRO]
 –AT-tryed –AT-see himself
 ‘*John tried to be seen by himself_J.’

4.1.3 Reflexivization and Raising

The following examples deserve some attention on their own, since they exhibit exceptional case marking properties in a language without morphological case. First consider some complement clauses with COMP:

- (24) a. Si John mang-arophon asa ma-mereng imana/diri-na_B si Bob.
 +AT-expect COMP +AT-see him/himself
 ‘John expects that Bob will see him/himself_B.’
 b. Si John mang-arophon asa di-bereng si Bob imana/diri-na_B.
 +AT-expect COMP –AT-see him/himself
 ‘John expects that Bob will see him/himself_B.’

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- c. Di-arophon si John asa ma-mereng imana/diri-na_B si Bob.
-AT-expect COMP +AT-see him/himself
'John expects that Bob will see him/himself_B.'
- d. Di-arophon si John asa di-bereng si Bob imana/diri-na_B.
-AT-expect COMP -AT-see him/himself
'John expects that Bob will see him/himself_B.'

Next we combine sentence embeddings with clause internal topicalization. Still there is no binding to the matrix subject:

- (25) a. *Si John mang-arophon asa diri-na ma-mereng si Bob.
+AT-expect COMP himself +AT-see
'John expects that it is himself who will see Bob.'
- b. Si John mang-arophon asa diri-na_B di-bereng si Bob.
+AT-expect COMP himself -AT-see
'John expects that it is himself_B whom Bob will see.'
- c. *Si John di-arophon asa diri-na ma-mereng si Bob.
-AT-expect COMP himself AT-see
'John expects that it is himself who will see Bob.'
- d. Si John di-arophon asa diri-na_B di-bereng si Bob.
-AT-expect COMP himself -AT-see
'John expects that it is himself_B whom Bob will see.'

But now observe that complementizers are not obligatory, so that we can also combine complement clauses without COMP and internal topicalization. In this case, however, binding to the matrix subject becomes obligatory:

- (26) a. Si John mang-arophon diri-na_J ma-mereng diri-na_J.
+AT-expect himself +AT-see himself
'John expects himself_J to see himself_J.'
- b. Si John mang-arophon diri-na_J di-bereng si Bob / *diri-na.
+AT-expect himself -AT-see himself
'John expects himself_J to be seen by Bob/*himself.'
- c. Di-arophon si John diri-na_J ma-mereng diri-na_J.
-AT-expect himself +AT-see himself
'John expects himself_J to see himself_J.'
- d. Di-arophon si John diri-na_J di-bereng si Bob/*diri-na.
-AT-expect himself -AT-see
'John expects himself_J to be seen by Bob/*himself.'

Note that these data fit particularly well with Koster's theory of domains, cf. Koster (1987), where he proposes that in some languages complementizers erect opaque domains for anaphoric binding. For our purposes, however, another issue completely unrelated to reflexivization is relevant. Observe that verb first doesn't seem to be obligatory in the above contexts. This might be due to topicalization of the subject. On the other hand, topicalization requires a certain intonation and certain thematic conditions (cf.

Cumming (1984)), which might turn out to be absent in the above context. Without further information it is impossible to decide the issue. Nonetheless it seems justified here to articulate doubts on whether topicalization is always the correct explanation for verb second; I return to the issue briefly in section 6.

4.2 Dative Shift

A final issue concerns Dative Shift. The following data do not directly confirm the base structure hypothesis but instead imply a complication of the theory, one that according to Schachter et al. is to be solved on the basis of thematic roles.

First observe that the indirect object in bitransitive sentences has to be generated outside the VP; cf. (27-a) and (28-b). This in itself is an unexplained fact, since indirect objects normally rest inside VP:

- (27) a. Mangalean biang si Torus tu si Ria.
 +AT-give dog PM Torus to PM Ria
 ‘Torus is giving a dog to Ria.’
 b. Mangalean si Ria si Torus biang.
 +AT-give PM Ria PM Torus dog
 ‘Torus is giving Ria a dog.’
- (28) a. Manuhor biang si Torus tu si Ria.
 +AT-buy dog PM Torus to PM Ria
 ‘Torus is buying a dog for Ria.’
 b. Manuhor si Ria si Torus biang.
 +AT-buy PM Ria PM Torus dog
 ‘Torus is buying Ria a dog.’

In (28-b) and (27-b) we observe “Dative Shift,” i.e. a construction in which the direct and indirect object change places. The question is how to describe this alternation. As a complicating factor we observe that a similar change also occurs in –AT-sentences:

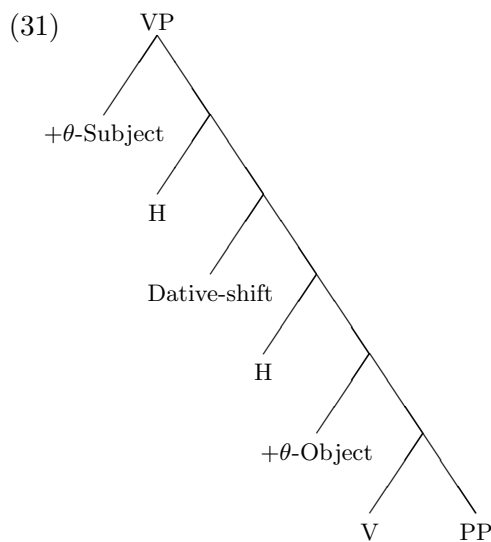
- (29) a. Dilean si Torus biang i tu si Ria.
 –AT-give PM Torus dog the to PM Ria
 ‘Torus gave the dog to Ria.’
 b. Dilean si Torus si Ria biang i.
 –AT-give PM Torus PM Ria dog the
 ‘Torus gave Ria the dog.’
- (30) a. Dituhor si Torus biang i tu si Ria.
 –AT-buy PM Torus dog the to PM Ria
 ‘Torus bought the dog for Ria.’
 b. Dituhor si Torus si Ria biang i.
 –AT-buy PM Torus PM Ria dog the
 ‘Torus bought Ria the dog.’

On the basis of these data it is argued by Schachter (1984a) that Dative Shift cannot be satisfactorily described by purely syntactic means. There is no way to state a unifying

relation between the (a) and (b) sentences without being forced to rely heavily on the identity of the thematic roles, so that ultimately the best description of the data is to stipulate a lexical process that refers to the identity of the thematic roles involved. Thus, the proposed theory of Dative Shift is pre-syntactic, contradicting many current assumptions about theta theory (e.g. Baker's (1988) Uniformity of Theta Assignment Hypothesis).

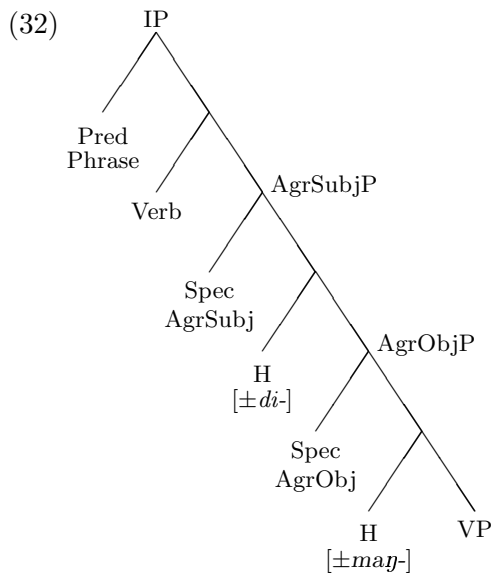
5 An Alternative Analysis

Following Larson (1988) with modifications proposed in Chomsky (1991), Chomsky (1992) (= Chomsky (1993)) and Chomsky & Lasnik (1993), it is proposed in Müller & Sternefeld (1994) that the underlying structure of clauses is as shown in (31):

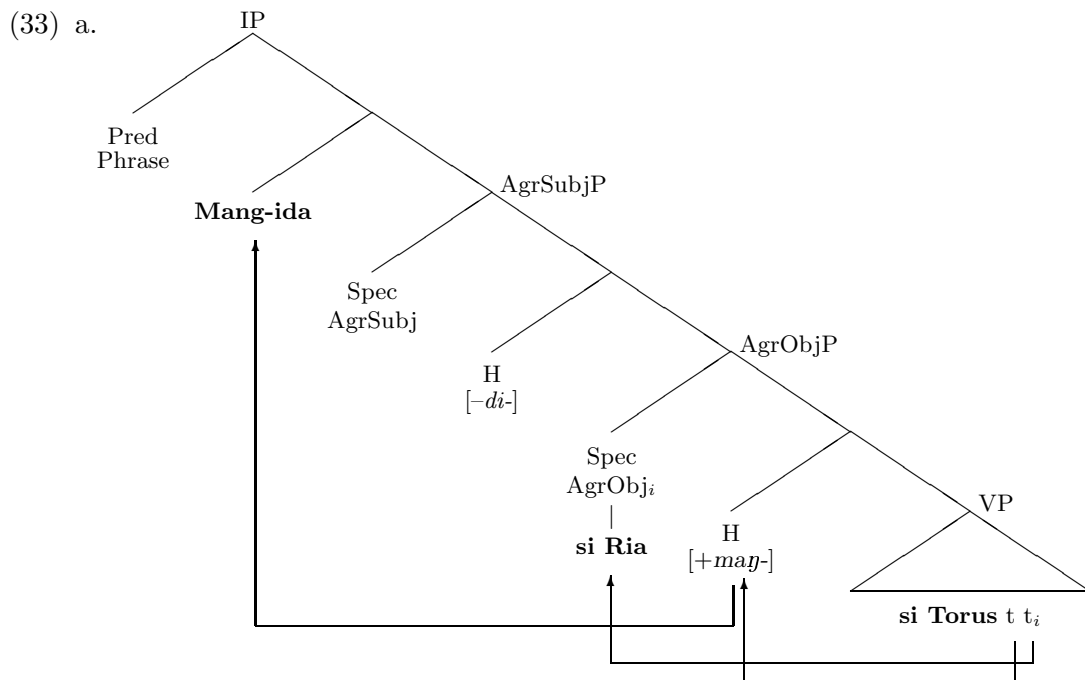


“H” is short for empty head positions which form the intermediate landing sites for cyclic head movement into a functional category above VP.

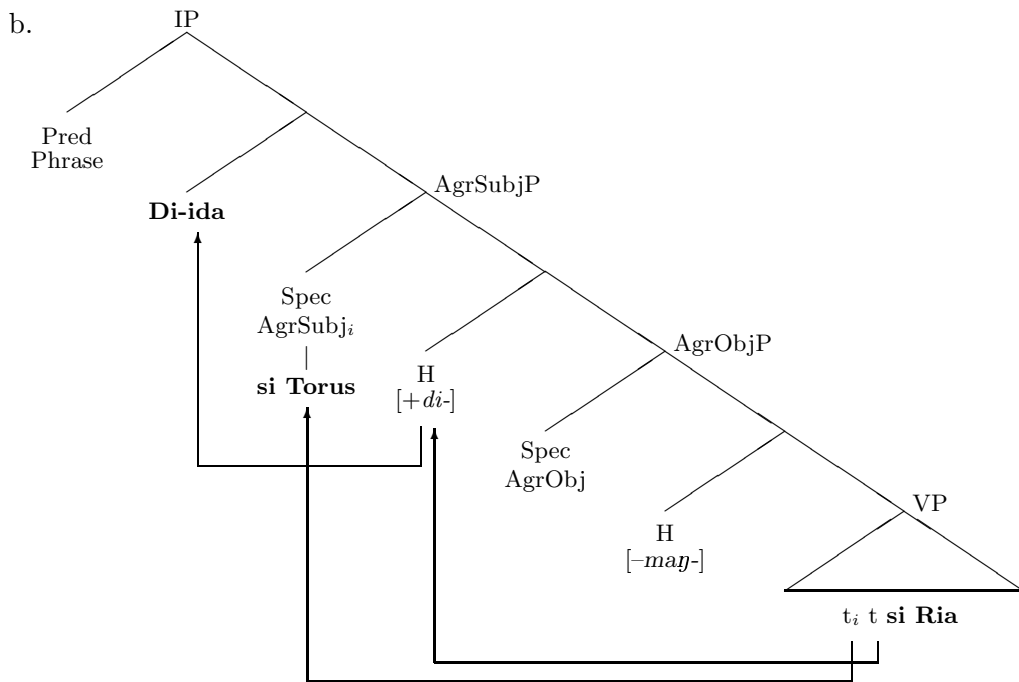
The table in section 1 suggests that there is object agreement in the active voice (= *-sa*) and subject agreement in the passive voice (= *-hu*, *-ta*, *-nami*, etc.). Following Chomsky (1992) one might therefore assume the following functional projections for Toba Batak:



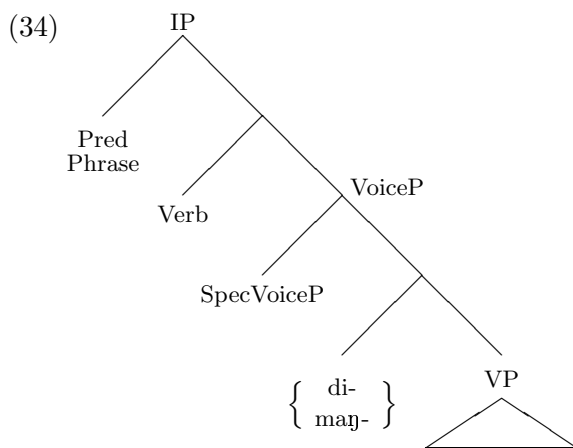
The two basic types of transitive sentences could then be derived in the following way: First there is adjunction to *may-*, followed by subsequent movement of the object into the specifier position of *may-*. Second, there is movement of the inflected verb into the first position headed by I. (As we will see below the specifier of this position can serve as the landing site for predicate phrases and for topicalization.) The derivation is depicted in (33-a); an analogous derivation for *di-*verbs is given in (33-b):



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However, there is little evidence that real object agreement is involved; unlike the prefixes of table 1, the postfixes that indicate agreement could equally well be clitics. One would therefore need more data to evaluate the existence of two different projections. We may therefore introduce a certain simplification by putting *may-* and *di-* into the same head position. This implies that I will maintain the derivational aspect of this analysis; despite there being no real number agreement involved, there is some other kind of agreement to be observed, depending on the kind of morpheme in the head position. Thus, the two agreement phrases can be collapsed into one functional projection, called the Voice Phrase. The general scheme is this:



The relevant agreement phenomenon can be described as follows: *may-* has to agree with an object theta role, and *di-* has to agree with a subject theta role. The kind of agreement involved is the same as the usual Case agreement system, in which the

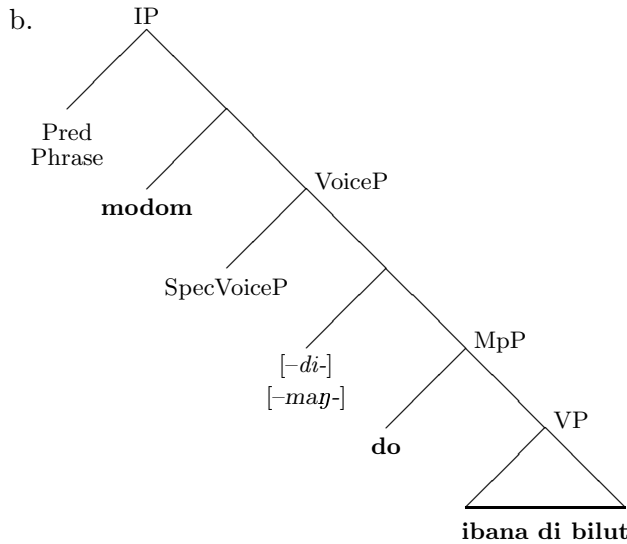
head of AgrObjP has to “agree” with objective Case, and the head of AgrSubjP with nominative Case. We might even employ the same Case distinction, rather than those of theta theory; it’s only because Toba Batak lacks any morphematic Cases that the reliance on thematic roles seems more adequate.

6 Evidence (II)

6.1 Modal Particles

Note that most generalizations that can be expressed by reference to (1) can also be captured in a structure like (34). For example, the data in Nababan (1981) provide us with some evidence that in the above analysis (34) modal particles occur immediately before the VP, either being adjoined to VP or creating a projection of their own. This means that the particle occurs after the subject in a *di*-construction and after the object in *may*-constructions. The analogous generalization in the rival analysis (1) would be that the particle has to be generated between the VP and its external argument. In intransitive clauses we find that the particle *do* precedes the subject, and it also precedes intransitive objects or modifiers of the verb; cf. Nababan (1981, p.112f). An example is given in (35):

- (35) a. Modom do ibana di bilut.
 sleep Mp he in room
 ‘He is sleeping in the room.’



Observe that the subject does not move, since intransitives are neither *may*-nor *di*-verbs. Hence both analyses correctly capture the position of the particle, but do so on completely different grounds.

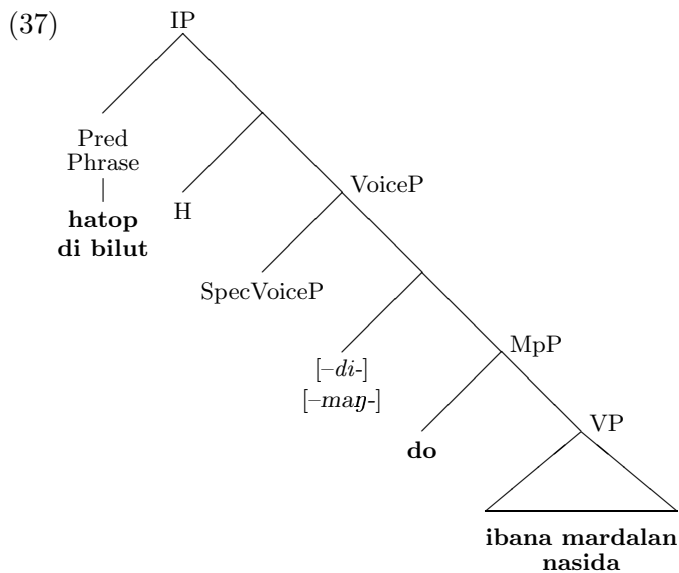
These data suggest that only transitive verbs (i.e. those with *di*- or *may*-) trigger movement of an NP into the SpecVoice position. Hence the generalization would be that the particle *do* is in third position with transitives, but in second position with intransitives. This is consistent with our analysis, but has no natural structural account within the VP-first analysis.

6.2 Verb Second within VP

As already mentioned above, certain predicate phrases or modifiers can occur in first position, sometimes before the verb as in (36-b):

- (36) a. Di bilut do nasida.
in room Mp they
‘They are in the room.’
b. Hatop do ibana mardalan.
fast Mp he walk
‘He walks fast.’

Interestingly, we also observe subject verb sequences as in (36-b). In our system, (36-a) and (36-b) are analyzed as shown in the following tree:



Due to a lack of further information it remains an open question why there need not be overt movement of the verb to H, the head of IP. Recall also that there appears to be residual verb second phenomena with sentential complements as well; cf. (24). In that case the reason might be stylistic: If we were to generate the otherwise “normal” order, namely VOS, the object would be a central embedded clause, hence a structure difficult to process. It is thus suggestive to conclude that the sentences (24-a), (24-b), and (25) faithfully represent basic word order, namely SVO. Likewise, (36-b) simply seems to be base generated, i.e. verb second within VP, with the subject preceding the verb. Thus, there is some further indication that VSO is derived rather than basic.

6.3 Reflexivization

It is evident that reflexivization obeys the usual principles if and only if it applies before movement. This is expected if we can show that movement into the SpecVoiceP position is not movement into an A-position, i.e. movement into a position that allows A-binding. I assume this to be in fact the case for independent reasons stated in the

next subsection. The data now follow from the common assumption that anaphors in A-bar position have to reconstruct into a position where they can be A-bound.

Note, however, that this is not quite true for the ECM cases discussed in section 4.1.3. For some reason the topicalized element cannot reconstruct, which is indicative of being in an A-position governed by the matrix verb. I leave it to the reader to evaluate the data against her or his current theory of reconstruction, A-positions, government, and binding.

6.4 Unexplained Asymmetries Explained

In the last section I proposed that SpecVoiceP is an A-bar position. I now make the additional assumption that this position has a property that distinguishes it from all other A-bar positions by representing a different type of landing site in the sense of (38):

- (38) **Principle of Unambiguous Binding:** A variable that is α -bound is β -free.

By α -bound I mean bound from a position of some type α , and β -free means not bound by a position of type β . The basic assumption then is that the SpecVoiceP position is of a different type than the positions for *wh*-movement, topicalization, relativization, etc. The principle is defended at length in Müller & Sternefeld (1993) and Müller (1995); in essence it says that movement into a position of type α cannot be followed by movement of the same item into a position of another type β . In the present case this implies that movement gets stuck in SpecVoiceP. This immediately explains all the mysterious anti-ECP-effects observed in section 3.

Moreover, we have independent evidence for the assumption needed in the last section, namely that the SpecVoiceP position is an A-bar position. If it were an A-position, the trace left behind would not count as a variable, and hence should not be the offending trace for the PUB. Since our explanation of movement type asymmetries crucially depends on the existence of variables, movement into SpecVoiceP must be operator movement, hence movement into an A-bar position.

6.5 Control

Note that the difference between finite and non-finite clauses in Toba Batak is not reflected by a morphological difference; hence we may assume that government distinctions cannot play a role in the determination of PRO in Toba Batak. Prima facie it would follow that PRO is impossible, unless it can be moved into an ungoverned position. This is precisely what I will be assuming here, namely that PRO is an operator that moves from its VP-internal position into SpecC. Now, given the PUB this immediately explains why PRO is possible only for certain arguments: The argument that moves to SpecVoiceP (presumably a governed position) cannot be PRO, nor can we move from SpecVoice into SpecC. It follows that only arguments that did not move (i.e. “VP-external” arguments in the analysis (1)) can be PROs, which is exactly what we observed above.

6.6 Dative Shift

Above it has been argued that Dative Shift is basically a lexical process, namely one in which direct and indirect objects change roles and thereby change places in syntactic structure. Within the present framework, however, the Dative Shift data become amenable again to a syntactic treatment. First note that the somewhat exceptional status of indirect objects as being generated outside VP in the old analysis is no longer a problem: The indirect object position in (31) (=PP) is as deeply embedded as possible. Example (27), repeated here as (39) for convenience, simply shows that there is a choice between moving either the direct object or the indirect object into SpecVoiceP.

- (39) a. Mangalean biang si Torus tu si Ria.
 +AT-give dog PM Torus to PM Ria
 ‘Torus is giving a dog to Ria.’
 b. Mangalean si Ria si Torus biang.
 +AT-give PM Ria PM Torus dog
 ‘Torus is giving Ria a dog.’

These data only show that the agreement requirements that must be met in SpecVoiceP are not as strict as one would expect: *may-* licenses either both kinds of object theta roles, or abstract objective Cases. (29), repeated here as (40), shows the usual kind of dative movement into the Dative Shift position provided by the template in (31):

- (40) a. Dilean si Torus biang i tu si Ria.
 –AT-give PM Torus dog the to PM Ria
 ‘Torus gave the dog to Ria.’
 b. Dilean si Torus si Ria biang i.
 –AT-give PM Torus PM Ria dog the
 ‘Torus gave Ria the dog.’

In fact, then, there is no unified phenomenon of Dative Shift involved here; rather we have two processes, one being movement into the Dative Shift position, the other being movement into SpecVoiceP. Since the latter process is not available in the old theory, it comes as no surprise that it is impossible to state “Dative Shift” in purely syntactic terms; on the other hand, it now becomes clear that these phenomena can easily be handled in terms of movement, once we provide the right kind of positions to move into.

6.7 Remaining Issues

Two further issues must be addressed. The first concerns the position of adverbials. In our analysis adverbials cannot be adjoined to the Voice Phrase, otherwise we would expect them just at the position where they are prohibited. Naturally an increasing number of functional projections calls for an increasing number of restrictions on adjunction, but beyond that I do not have a particular explanation to offer.

The second point concerns coordination. The fact that VPs in different modes can be coordinated has given rise to a number of theoretical issues, among them questions

of theta theory and questions concerning parallelism constraints in ATB extractions. Another line of research reduces predicate coordination to coordination of full clauses combined with a process of ellipsis (cf. Wilder (1995)); other treatments involve right node raising. For instance, as pointed out by Wilder (p.c.), all coordinations in section 3.2 can be derived by a process of right node raising with *si Fred* being extracted across the board from two coordinated IPs. Lack of data does not permit any further discussion of the issue, but it should be clear that in general coordination data tell only very little about underlying structure; they certainly do not establish sufficient evidence for the structure proposed in (1).

7 LF-Movement

The following data from Clark (1984, p. 16) also receive a quite natural explanation in terms of the same process that regulates anaphoric binding.

- (41) a. *Mangallang *sude sassing_i dengke-na_i*.
 +AT-eat every worm fish-its
 b. Di-allang *dengke-na_i sude sassing_i*.
 –AT-eat fish-its every worm
 ‘Every worm is eaten by its fish.’

Above we assumed that anaphors are bound in their original position, so that if binding is at LF these anaphors must reconstruct. Now, (41-a) suggests that this process is completely general in as far as there is also obligatory reconstruction of quantifiers. In order to derive this result, let us assume a process of Quantifier Raising (QR) as in May (1985), and assume furthermore that the SpecVoiceP position is opaque for anaphoric binding, so that quantifiers in this position cannot bind pronouns. The ungrammaticality of (41-a) is now predicted: Whether there is reconstruction or not, there is no way to bind the pronoun.

Turning next to (41-b), binding of the pronoun depends on QR. Observe first that QR of the quantifier in (41-a) is impossible, since it would violate the PUB. In contrast, however, QR of the quantifier in (41-b) is unproblematic (apart from generating a weak cross over situation that will be ignored) and the grammaticality of (41-b) is predicted. Hence the asymmetry observed ultimately reduces to an asymmetry between legitimate and illegitimate interaction between QR and movement into SpecVoiceP.

Strong evidence against argument movement into VoiceP followed by QR can be gained from quantifiers that must have wide scope at LF and which for this very reason require obligatory QR. Such a quantifier is *ganup*. The ungrammaticalities observed by Clark in (42) now follow immediately from the PUB:

- (42) a. *Mang-opot *ganup diktator angka presiden*.
 AT-visit every dictator every president
 b. Mang-opot *angka presiden ganup diktator*.
 c. *Di-opot *ganup presiden angka diktator*.
 d. Di-opot *angka presiden ganup diktator*.

Toba Batak Phrase Structure

This concludes our discussion of the Toba Batak data. It should have become clear that much further work is needed to evaluate the competing proposals. I have to leave this for others; instead I will try to back my proposal by showing that what I have assumed to be the case in Toba Batak is the rule in all languages that exhibit some such distinction between active and passive; the only difference from other languages is that movement into SpecVoiceP ends up in a position that requires an empty category.

PART II: The Passive Projection

1 Against Absorption

Since Chomsky (1981), it has widely been assumed that the basic property of a passive construction like (43) is “absorption” of the subject theta role.

(43) John was killed.

It has been held that the subject theta role in this kind of construction is not assigned to any position in its syntactic structure. In consequence, the subject position of the GB-framework, i.e. what is now called SpecI, must be filled by moving the object into that position. Thus, the structure of (43) has been analyzed as shown in (44):

(44) [s John_i was [VP killed t_i]]

However, the GB-framework has never made explicit how the mechanism of absorption is technically to be implemented; in particular, the role of the passivizer *was* has not been discussed in a way that would shed light on its function of “blocking” the assignment of the external theta role.*

More recently, however, a number of arguments have been raised that are designed to show that the theta role of the subject should still be available in syntactic structure, although it cannot *overtly* be realized as a subject NP. These arguments are summarized in the following subsections.

2 ‘Visibility’ of Subject Theta Roles

2.1 Control

As observed by Manzini (1983), passivized subjects can serve as controllers of purpose clauses:

- (45) a. They decreased the price [PRO to help the poor]
b. The price was decreased [PRO to help the poor]
c. *The price decreased [PRO to help the poor]

Adopting the VP-internal subject hypothesis (cf. Stechow (1979), Dasgupta (1985), Fukui & Speas (1986), Sportiche (1988) and others), this kind of control could be described as being exercised by a small pro-subject in the specifier position of V:

- (46) a. They_i decreased the price [PRO_i to help the poor]
b. The price pro_i was decreased [PRO_i to help the poor]

*Within the early GB-framework, this effect is achieved only indirectly. Here, the role of *was* is to select a passive participle, which in turn is deprived of its ability to assign an “external” theta role already in the lexicon. I will criticize this theory in the following sections.

The Passive Projection

- c. *The price decreased [PRO_i to help the poor]

The difference between (46-c) and (46-b) can be explained as follows: Whereas in (46-b) there is no real absorption of the subject theta role (represented as pro in (46-b) and in the examples to follow), there is indeed a lexical process of absorption in (46-c), so that its ungrammaticality now follows from the lack of an appropriate controller.

The same point is made by Baker, Johnson & Roberts (1989) using the following examples:

- (47) a. This bureaucrat was bribed [PRO to avoid the draft]
 b. *This bureaucrat bribes easily [PRO to avoid the draft]

In German, it is possible to passivize verbs that do not assign accusative Case. This also holds for control verbs:

- (48) a. Sie_i versuchten [PRO_i zu tanzen]
 They tried to dance
 b. Es wurde versucht [PRO zu tanzen]
 It was tried to dance

Evidently the suppressed subject still must be able to control the embedded PRO, as shown in (49):

- (49) daß pro_i [PRO_i zu tanzen] versucht wurde
 that to dance tried was

Accordingly, (48-b) can then be derived by verb second movement of *wurde*, extraposition of the infinitive, and insertion of the expletive *es*.

2.2 Subject-Oriented Modifiers

Similarly, suppressed subjects can still serve as the subjects of predicates that Jackendoff (1972) calls ‘subject oriented modifiers’; cf. the following examples from German:

- (50) a. Die Mädchen haben die Cocktails nackt serviert
 ↑ predication ↓
 The girls have the cocktails nude served
 b. Die Cocktails sind pro nackt serviert worden
 ↑ ↓
 The cocktails have nude served been

This contrasts with so-called lexical passives, also called *Zustandspassiv* in German:

- (51) a. Die Cocktails sind serviert
 The cocktails are served

- b. *Die Cocktails sind nackt serviert
The cocktails are nude served

Compare also Baker et al.'s examples:

- (52) a. This bureaucrat was bribed deliberately
b. *This bureaucrat bribes deliberately
- (53) a. They decreased the price willingly
b. The price was decreased willingly
c. *The price decreased willingly

2.3 Binding to Invisible Subjects

Empty PRO-subjects when interpreted as arbitrary in reference can serve as the antecedent of impersonal anaphors:

- (54) a. [PRO_i to shave oneself_i] is fun
b. ?*[PRO_i to shave themselves_i] is fun

This behavior is paralleled by the suppressed external subject in passive constructions; cf.:

- (55) a. Such privileges should be pro_i kept to oneself_i
b. ?*This privilege was pro_i kept to themselves_i

There is one difference, however, between PRO and pro. Whereas arbitrary PRO can be first person plural, the invisible passivized argument must be third person singular, at least in English:

- (56) a. [PRO to shave ourselves] is fun
b. *Love letters were written to ourselves

In German, there is no morphological difference in the reflexive form; moreover, we observe that impersonal constructions are compatible with reflexivization or reciprocization of an object; cf. (57) as an example for the latter process:

- (57) a. Sie_i ermordeten einander_i
They killed each-other
- b. Hier wurde pro_i einander_i ermordet
Here was each-other murdered

These examples testify again that the subject must still be able to serve as the antecedent of the anaphor. This accords with binding theory, which rules out that the anaphor itself becomes a derived subject. As argued in Müller & Sternefeld (1994) the anaphor need not become a derived subject because it has inherent Case and therefore can remain in situ. (This raises the question of Case absorption in passive constructions, to which I turn in section 3.) Hence the VP-internal subject position can provide

for a binder, i.e. a position that is capable of serving as a c-commanding antecedent for the anaphor.

2.4 *By*-Phrases

It is well known that *by*-phrases in English and German can realize agentive as well as instrumental theta roles; cf. the following German examples cited from Vogel & Steinbach (1994):

- (58) a. Die Armee zerstörte das U-Boot
the army destroyed the submarine
b. Das Torpedo zerstörte das U-Boot
the torpedo destroyed the submarine
- (59) a. Das U-Boot wurde von der Armee zerstört
the submarine was by the army destroyed
b. Das U-Boot wurde von einem Torpedo zerstört
the submarine was by a torpedo destroyed
c. Das U-Boot wurde mit einem Torpedo zerstört
the submarine was with a torpedo destroyed
d. Das U-Boot wurde von der Armee mit einem Torpedo zerstört
e. *Das U-Boot wurde von der Armee von einem Torpedo zerstört

These data show that although the free choice of subject roles also carries over to passivized constructions, instrumental and agentive *by*-phrases cannot be combined within one clause. Lasnik (1988) discusses these problems and concludes that a correct description of the facts should rely on the assumption that the *by*-phrase realizes a “Subject,” explaining the ungrammaticality of examples like (59-e) by the plausible assumption that there is only one “Subject” per clause.

Nonetheless this description is far from satisfying, since it alludes to a concept of subjecthood that is not readily available in the GB-theory: Essentially, Lasnik’s “Subject” is a D-structural subject, but within the GB-framework this subject has been absorbed, according to the lexical theory of passives.

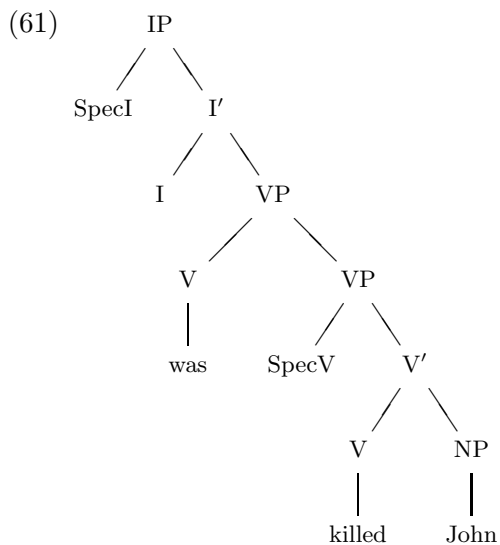
On the other hand, given that in our theory there is still a theta position for the subject available, it is easy to see that Lasnik’s description can be reformulated as follows:

- (60) *By*-phrases bind a subject pro.

According to (60), a *by*-phrase eventually raises at LF (i.e. adjoins to VP) in order to bind the pro left by passivization. Since there is no vacuous binding in natural language, it is clear that this binding relation can apply only once in a clause. That we cannot have two *by*-phrases simply reflects the fact that there can be only one pro as the covered subject position of a passivized clause.

3 The Voice Phrase

In the above sections we have seen that there should be an empty position associated with the subject theta role. This has been acknowledged already by Baker et al. (1989), Fabb (1984), and others. But whereas these authors assign the subject theta role to some INFL-element, I would like to propose that there is in fact no exceptional assignment of theta roles involved. Thus, what we have when assigning theta roles is something like (61), with the SpecV position being as usual the one position that hosts the subject role:



The relevant problem now is “absorption”; How does it work? In previous theories SpecV didn’t exist, and assignment of the theta role was associated with SpecI. Accordingly, one way of formulating a non-lexical theory of passivization was to appeal to the blocking nature of the passivizers by assuming a kind of opacity of the auxiliary *was* with respect to theta role assignment across *was*. In (61), however, we already have assigned the theta position of the subject VP-internally, hence the blocking effect of *was* must be described in another way.

Although the present state of affairs is clearly reminiscent of Haider’s theory of blocking and de-blocking (cf. Haider (1986)), I will not pursue the idea of blocking, primarily because it seems to me that the particular mechanism needed to get the correct result is not among the formal devices provided by UG. In other words, the theory designed by Haider employs formal means exclusive to the description of thetaassignment which are still in need of independent justification outside the realm of passive constructions. In particular, I do not believe that any theory based on the notion of “blocking” is on the right track.

Rather, I would like to propose that the effect of the auxiliary *was* is to host a specifier position that serves as a landing site for the subject. The particular device needed now is one that has to do with specifier head agreement, which must be spelled out in such a way that the specifier is necessarily a *pro*, i.e. invisible. Thus, the only new formal device, and essentially the only tool needed to account for the basic property

of the passive construction in German and English is this: The triggering auxiliary requires a *pro* subject. Accordingly, the main properties of passive clauses are now hosted in properties of the auxiliary rather than of the main verb, i.e. the participle. This seems to me a rather drastic shift of perspective, in fact one that constitutes the focus of discussion in the next section.

4 Is there Case Absorption?

In the standard theory, the fact that the object moves to the subject position has been explained by assuming that in its D-structural position the object cannot receive structural Case. As in the situation of theta role absorption, this presupposes that there is some process of absorption of objective Case, and again the question arises of how “passive morphology” can have such an effect. Within the GB-framework, the problem is parallel to the above problem of theta role absorption, except for the possible difference that Case absorption on the object must hold entirely VP-internally, regardless of whether the subject is generated inside or outside of VP. But how can the passivizer have such an effect on the verb?

The solution proposed in Chomsky (1981) is that the participles in question are “passive participles”, which are claimed to belong to a “neutralized” category, one that is defective in its ability to check or assign Case. The required process of neutralization is again a lexical one, i.e. it is a *lexical* property of these participles that they are incapable of assigning Case. However, the assumption that Case absorption is lexical encounters a number of difficulties, in particular with languages that have a richer Case system than English.

4.1 German

As shown in (62), there are two different passive constructions in German. Depending on the passivizing verbs (*werden* in (62-b) and *bekommen* or *kriegen* in (62-c)), we observe either “absorption” of accusative, or “absorption” of dative Case:

- (62) a. Ich schenke dem Fritz einen Cognac
I give ART_{dat} Fritz ART_{acc} cognac
- b. Ein Cognac wurde dem Fritz (von mir) geschenkt
ART_{nom} cognac was/gets ART_{dat} Fritz by me given
- c. Der Fritz bekommt den Cognac (von mir) geschenkt
ART_{nom} Fritz gets/is ART_{acc} cognac by me given

According to Chomsky’s theory, the above data would force us to introduce two morphologically indistinguishable “passive participles,” one that cannot check accusative, and one that cannot check dative.

From the historical point of view it is certainly correct that participles were adjectivals in the sense proposed in GB, and were hence unable to assign or realize accusative Case. As concerns the later historical development of also allowing participles in the periphrastic tenses formed with *have/haben* in Germanic it is not accidental that this

construction occurs with just these auxiliaries: Originally being unable to realize objective Case, participles could still refrain from acting as Case assigners, since the property of Case assignment in periphrastic tenses could be taken over by the Case assigning potential of the auxiliaries. In other words, it is not the adjectival *seen* in (63) but verb *has* that assigns Case to *Bill*.

(63) John has seen Bill

Pursuing this line of thought would require that in the above examples the accusative Case in (62) is derived from *bekommen/kriegen*. Although by itself not implausible, such an assumption does not really solve our problem. Despite being able to correctly predict the assignment of accusative Case, the relevant problem, namely absorption, remains unresolved for the missing dative Case in (62-c): How can we account for dative absorption, i.e. why is (64) ungrammatical?

(64) *Dem_{dat} Fritz bekommt den Cognac (von mir) geschenkt

The case in favor of a lexical theory of absorption becomes even worse when we look at other passive constructions in German. The point is that these do not involve participles, but infinitives. One example is the following:

(65) Das Buch ist (von allen) zu lesen
 the book is by everyone to read
 ‘The book is to be read by everyone’

Here again we find “Case absorption,” so that if applying the Chomskyan lexical theory one would be forced to stipulate two lexical entries for infinitives: one *zu*-infinitive in active voice constructions that can check accusative, and another one in passive voice constructions that cannot. But this duplication of lexical ambiguities having no morphological motivation seems entirely misguided, leading to a proliferation of lexical items and a loss of explanatory force.

Given that there is only one infinitive and one participle, the present problem is exactly parallel to the one we observed in the last section: Once we select an item from the lexicon, we do not want to modify its theta properties, and it now seems we also do not want to modify its Case checking properties either. In other words, we give up the historical account of attributing the lack of overt Case to a morphological property of the main verb. However, given the structure in (61) and a very limited set of permissible formal devices, it follows that auxiliaries, being outside the projection of the main verb, cannot exercise any influence on internal properties of the embedded projection. How can we get the effects of absorption, if there is absorption at all?

Before offering a solution to the problem (in fact one that does not involve Case absorption), let us take a brief look at other languages first.

4.2 Other Languages

In regard of the problematic nature of absorption explained in the last section, it is natural to ask whether or not Case absorption is a universal property of passive constructions. And indeed it is not. For example, Sobin (1985) shows that in Ukrainian, the thematic object of a passive sentence can appear either in a nominative Case form or in an accusative Case form, in more or less free variation.

- (66) a. Cerkv-u bul-o zbudova-n-o v 1640 ro'i
 church-acc/fem was-imp built-imp in 1640
 'The church was built in 1640.'
- b. Cerkv-a bul-a zbudova-n-a v 1640 ro'i
 church-nom/fem was-fem built-fem in 1640
 'The church was built in 1640.'

Timberlake (1976) makes the same point for North Russian dialects, Stechow & Sternefeld (1988) for Semitic languages, and Baker et al. (1989) for Welsh and Polish. An interesting survey is provided by Goodall (1993). Case absorption is obligatory in English, optional in Ukrainian, and prohibited in Kannada. Furthermore, Goodall brings in an additional parameter, namely whether or not passivization can apply to intransitives:

(67)	Case absorption	Transitive Only	Transitive and Intransitive
	Obligatory	English	German
	Prohibited	Kannada	Finnish
	Optional	Ukrainian	Nepali, Norwegian

Another variant of passive-like constructions without Case absorption is impersonal transitives. Keenan (1985) and Dubinsky & Nzwanga (1994) give the following examples of impersonal constructions with third person plural agreement marking on the verb:

- (68) Nzua a-mu-mono kwa meme
 John they-him-saw by me
 'John was seen by me.'
 (from Kimbundu, =(23b) in Keenan 1985)
- (69) Ba-beng-i Francine na mama
 AgrS-call-Tns Fr. by mom
 'Francine has been called by mom.'
 lit.: They (impersonal) have called Francine by mom
 (from Lingala, = example (5) in Dubinsky/Nzwanga 1994)

These constructions exhibit the properties listed in (70):

- (70) a. Third person plural subject agreement is obligatory,
 b. an overt third person plural pronoun would be ungrammatical,
 c. there is an optional *by*-phrase as in ordinary passives,
 d. there is no Case absorption,

- e. there is no “passive morphology.”

Occasionally, it seems possible to combine passive morphology and the impersonal constructions; cf.:

- (71) Copulantur dexteras
 Unified-pass-3pl right-acc
 (Latin, cited in Stechow & Sternefeld (1988, p. 162))

Here we find both passive morphology and impersonal third person plural morphology on the verb, but a lack of Case absorption. Given these facts it will be our task to find an alternative to Case absorption, one that can also account for the language particular differences we have observed above.

5 An Alternative Proposal

5.1 Licensing Properties

In order to capture the behavior of suppressed but syntactically “active” arguments in passive clauses, I have suggested – following Fabb (1984), Jaeggli (1986) and Baker et al. (1989) – that the subject theta role in passive constructions, although being somehow “absorbed,” is still present in syntactic structure. Unlike the above authors, however, I do not assign the theta role to the participle morphology. Rather, I assume a passive projection, headed by *be* in English and by *werden* and other verbs in German, such that the theta role goes to the specifier of that projection. Having adopted the terminology from Kratzer (1993), this projection has been called a **voice phrase**, abbreviated as VP_v . The head of the voice phrase is the passivizing verb. Given a D-structure as shown in (72),

- (72) $[IP\ e\ INFL\ [VP_v\ e\ was\ [VP\ pro\ killed\ John\]]]$

was is the head of the voice phrase. To derive a grammatical S-structure, we first move the *pro* subject into the specifier of the voice phrase. Next, we move *John* into SpecI, and finally it is necessary to move the passive verb into INFL, where it can agree with *John*:

- (73) a. $[IP\ John_i\ I\ [VP_v\ pro_j\ was\ [t_j\ killed\ t_i\]]]$
 b. $[IP\ John_i\ was_k\ [VP_v\ pro_j\ t_k\ [t_j\ killed\ t_i\]]]$

Only in this configuration, where *pro* has moved, can the requirements of the head of the voice phrase be met:

- (74) The head of a passive voice phrase must license (via spec-head agreement) a *pro* that bears a subject theta role.

Note that the term subject theta role is equivalent to the more traditional term “designated theta role” which was coined to substitute for the older term “external theta

role,” which became obsolete with the introduction of VP-internal subjects. The exact nature of this theta role and the associated requirement (74) is left open. Traditionally, the requirement that only designated theta roles can undergo “absorption” is understood as implying that passivization of ergative verbs is blocked, but see Keenan (1985) for exceptions.

Leaving the exact nature of *pro* open, I take (74) as an almost universal property of passive constructions. Thus, if a language exhibits the properties we have discussed above, it must have a passive projection that requires and licenses a third person *pro*. The only exception is a language like Toba Batak, in which what we have called a passive construction involves the same kind of movement, but somewhat different licensing conditions associated with the head of its voice phrase: A *pro*-element cannot be licensed in the SpecVoiceP position. This accounts for some of the properties of *di*-constructions. In *may*-constructions, however, it is the object that moves; a parallel covert process would be the anti-passive construction. Any discussion of this phenomenon lies beyond the scope of this paper.

Given that there is an empty NP in S-structure in English and other languages, the facts that call for a syntactically ‘visible’ but absorbed subject now follow straightforwardly from there being an empty NP that plays the role of a point of reference for the various syntactic processes we have observed above.

Apart from properties of passivization we can also account for two aspects of the impersonal constructions: lack of overt passive morphology and agreement with third person plural. Both properties can be seen as properties of heads. The first can be captured by simply assuming an empty voice phrase head, i.e. an empty head with the licensing properties of a passivizing overt head. This immediately accounts for theta role absorption in impersonal transitives.

The second property, agreement with third person plural, is more problematic. Here the question arises as to whether it should be attributed to the licensing relation between INFL and its specifier (another *pro*, but this time an expletive *pro*), or whether it relates to the licensing property of the head of VP_v. The above examples suggest that the latter is the case. If so, *pro*’s property of being plural rather than singular as in ordinary passive constructions is bound to spec-head agreement. In other words, it must be implemented as a lexical property of the head of VP_v that it can license only third person plural.

A third property concerns the transitivity of the construction. This, as we will see, is a matter of Case absorption, to which we turn in the next section.

5.2 Case Assignment and Case Linking

Let us now turn to Case assignment in these constructions. In what follows, I will focus on the richer Case alternation system we find in German, which includes “absorption” of the dative. I assume that nominative, accusative, and dative Cases of bitransitive verbs are structural Cases. This means that the abstract Case features need not be attached directly to thematic roles drawn from the lexicon, but can be freely assigned to any thematic roles, given appropriate contextual circumstances to be discussed.

The idea to be developed in what follows is that on the one hand structural Case

is in an emphatic sense “structural,” i.e. assigned in a purely structural way, but on the other hand structural Case must be checked against some functional or lexical projection. In particular, what needs checking is the combination of the theta role and the Case of an NP.

As concerns the purely structural part of the story, we assume the following rules:

(75) **Case Assignment:**

- a. Within the projection of a verb, nominative can be assigned by default, accusative can be assigned if nominative has been assigned, and dative can be assigned if accusative has.
- b. Assignment of structural Case is possible only once; i.e. if two Cases in the domain of a verb are the same, one must be either a lexical Case or an agreement Case.

It is important to verify that these rules do not mention any particular position; all that is required is that Case assignment is within VP. We will think of (75-b) as introducing syntactic features that have to be checked later in the derivation. These checking conditions will be formulated as licensing conditions for the Case features being assigned by (75-a).

As announced above, we are now in a position to state the mechanism for Case checking. With respect to nominative Case, checking is traditionally done outside VP, namely in SpecIP. We thus have the following general agreement rule:

(76) Tensed INFL can license nominative Case in its specifier position.

We may think of (76) as a Case checking condition which applies as a rule of default, which means that it does not take into account the identity of the theta role associated with the Case feature in the subject NP. What we have to add next are the licensing conditions for the various combinations of theta roles with Cases in the constructions under discussion. With the examples from German in mind, these conditions can be spelled out as follows:

(77) **Case Linking:**

- a. (i) Accusative Case is licensed on a direct object theta role;
 (ii) Dative Case is licensed on the indirect object theta role;
 where the exact nature of the licensing head is left open. Thus, licensing can be executed either by default, or by V within the projection of a main verb, or by functional projections like AgrObj or AgrIndObj.
- b. *werden*_P and *sein*_Z license accusative Case marking on the subject theta role.
- c. *kriegen*_P and *bekommen*_P license dative Case marking on the subject theta role.

The index P on *werden* encodes that among the different functions the auxiliary may have we only consider the variant that subcategorizes a participle; the index Z means that *sein* in its function as a passive morpheme selects a *zu*-infinitive. Recall that by

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direct object theta role I mean the theta role that is assigned to the direct object position in (31), with an analogous definition for the indirect object theta role. Note furthermore that assignment of Cases to theta positions within VP is not restricted to particular positions, so that the direct object does not necessarily bear an accusative Case feature.

Assume, for example, that the direct object has received nominative Case. Now, since the link between nominative and the direct object position cannot be licensed in situ, nominative on a direct object theta role must be checked elsewhere. By (76), this can be done by INFL. Hence, an object with nominative Case has to move to INFL in order to get its Case checked. Assume that it does. What about the subject theta role in such a situation? Let us assume that the subject theta role is associated with accusative Case. Again, this combination cannot be licensed in situ, hence the subject has to move. But where can this combination be licensed? The answer is provided by (77-b), which in effect forces movement of a subject theta role with accusative Case into a position where this Linking can be checked. As a concrete example we may consider:

- (78) [IP Der Motor_{nom,i} wurde_k [VoiceP pro_{acc,j} t_k [VP t_j t_i repariert]]]
the engine was fixed

Since the arguments of the verb have moved into positions where their Case and the combination of theta role and Case is licensed, the derivation is successful.

As with theta role absorption, no real absorption ever takes place. In German, principle (77-b) is accompanied by (77-c), which describes ‘absorption’ of dative Case. Comparing these rules will make it more evident how Case absorption works. As an illustration, cf. (79):

- (79) a. Ich_{nom} schenke dem Fritz_{dat} einen Cognac_{acc}
I give ART_{dat} Fritz ART_{acc} Cognac
b. Ein Cognac_{nom} wurde pro_{acc} dem Fritz_{dat} (von mir) geschenkt
ART_{nom} Cognac was ART_{dat} Fritz by me given
c. Der Fritz_{nom} bekommt pro_{dat} den Cognac_{acc} (von mir)
ART_{nom} Fritz gets ART_{acc} Cognac by me
geschenkt
given

The grammatical derivation of (79-c), for example, starts with three argument positions:

- (80) a. The indirect object theta role is nominative. This Case Linking is licensed by INFL; cf. (76).
b. The direct object is marked as accusative. This Case Linking is licensed by (77-a).
c. The subject is marked as dative. This Case Linking is licensed by *bekommen* in (77-c).

Observe that the Cases in the above example occur only once. That this condition, expressed above in the uniqueness requirement (75-b), is essential will become evident

from inspecting the ungrammatical sentences in (81):

- (81) a. *Ein Cognac bekommt dem Fritz (von mir) geschenkt
 ART_{nom} cognac gets ART_{dat} Fritz by me given
 b. *Der Fritz wurde den Cognac (von mir) geschenkt
 ART_{nom} Fritz was ART_{acc} cognac by me given

As with the well-formed example (79-c) above, let us list the properties that would be required for a derivation of (81-a):

- (82) a. The direct object theta role is nominative. This Case Linking is licensed by INFL.
 b. The indirect object is marked as dative. This Case Linking is licensed by (77-a).
 c. (i) If the subject is marked as accusative, the Case Linking cannot be licensed by *bekommen*.
 (ii) If the subject is marked as dative, the Case Linking is licensed by *bekommen*, but we would encounter a violation of the uniqueness requirement.

Accordingly, there is no well-formed derivation of (81-a), nor, for similar reasons, is there one of (81-b).

5.3 Parameters and Other Variations

We may consider variations on the above conditions, depending, for example, on the question of whether or not non-transitive verbs can passivize with *bekommen*:

- (83) a. Wir helfen ihm_{dat}
 We help him
 b. *%Er bekommt geholfen
 He gets helped
 c. *Er wird geholfen
 He is helped

According to the above conditions, (83-c) is ruled out since the dative Case in (83-a) cannot be structural (there is no accusative assignment in (83)), and hence must be lexical. This also accounts for the ungrammaticality in (83-b): Even if there were a *pro_{dat}* in SpecVoiceP, the Case marking would be on the wrong theta role. For some speakers in some dialects, however, (83-b) is judged grammatical. This calls for a revision of the Case assignment rules, to the effect that structural dative cannot be limited to only ditransitive verbs. Accordingly, one would have to allow for dative Case assignment with verbs that do not assign structural accusative. As far as I can see this is the only change required to account for (83-b); in particular, (83-c) is still ruled out.

Further variation is required for languages in which “Case absorption” is optional or even forbidden. According to the above Case assignment rules, lack of accusative

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absorption implies that the pro element in SpecVoiceP is assigned nominative. Hence it seems that in these languages the passive head must be able to license nominative Case on pro. This is again a lexical property of the respective head, in fact one that immediately predicts the existence of a transitive passive construction.

Finally, we have to account for the existence or non-existence of impersonal passives. German, for example, exhibits passive constructions with intransitive verbs that describe an action:

- (84) weil getanzt wurde
 because danced was
 ‘because there was dancing’

It seems that our rules would require that the hidden pro element in (84) bears nominative Case. This, however, would be insufficient or wrong, because we have seen above that a head that licenses nominative on pro would also license transitive passives. In fact, however, the existence of impersonal passives is logically independent of the existence of transitive ones (Kannada has transitive passives but not impersonal passives, German has impersonal passives but not transitive passives); we therefore must find a way to keep these phenomena apart.

The main idea is that the Case distinctions we have are not yet sufficient to express the required distinctions, and therefore have to be enhanced by a supplementary way of making the required distinction between the pro’s of transitive and impersonal constructions. I will do this by stipulating that a pro_{nom} will formally differ from a pro without Case. Suppose that assignment of nominative Case is optional, at least in principle. Recall from (75-a) that assignment of accusative is possible only if nominative has been assigned; hence true optionality can hold only for intransitive verbs. Assume now that impersonal passives arise from the possibility of licensing a pro without Case. For example, German would be characterized as licensing a pro_{acc} , pro_{dat} , and a pro without Case. The full set of possibilities for the languages discussed above is given in (85) (where “no imp.” abbreviates *no impersonal passive*, “oblig. abs.” means *obligatory absorption*, i.e. no transitive passive, “no abs.” means *obligatory transitive passives*, and “opt. abs.” means *optional transitive passives*):

(85)	type of licensed pro	predicted type of language	example
	pro_{acc}	oblig. abs., no imp.	English
	pro_{nom}	no abs., no imp.	Kannada
	pro_{acc} and pro_{nom}	opt. abs., no imp.	Ukrainian
	pro_{acc} , pro_{dat} and $pro_{no\ Case}$	obl. abs., imp.	German
	pro_{nom} and $pro_{no\ Case}$	no abs., imp.	Finnish
	pro_{acc} , pro_{nom} and $pro_{no\ Case}$	opt. abs., imp.	Norwegian
			Nepali

In English, for example, we derive passives only from transitive verbs, which is directly reflected by pro’s having only transitive Case (i.e. *acc*). German in addition allows passives from intransitive verbs, which can arise only if pro lacks Case. Kannada has transitive passives, hence its pro must be nominative. It does not have impersonal

passives, which is not yet excluded by our system as it stands.

The discussion of the so-called richness of AGR and its relation to pro-drop has revealed that it is notoriously unclear what exactly makes it possible for a language to exhibit impersonal passives. I will not comment on these attempts to correlate properties of grammars; rather, I would like to present a somewhat “technical” solution to the above problem. Suppose there is an economy principle to the effect that assignment of Case for invisible categories is redundant and therefore should be avoided if possible. The qualification “if possible” means: *unless assignment of Case is necessary in order to fulfill the requirements of visible categories*. In other words, if there is an overt accusative, pro must bear nominative by virtue of (75-a), but if we have an intransitive verb, we cannot have Case marking on pro. Note in particular that “if possible” does *not* mean in order to fulfill the requirements of pro itself, namely to be licensed. In consequence, pro_{nom} is possible only in transitive constructions, but cannot occur in impersonal constructions. From this and the system in (85) it follows that impersonal passives are excluded from a language like Kannada. Conversely, a language without licensed pro_{nom} cannot have transitive passives, and this is what we observe in a language like German.

To summarize, I have tried to encode as many properties of passives as possible in the licensing condition of the Voice Phrase. It should be clear that the above sketch needs further elaboration and contains a number of unresolved problems. For instance, what about a language with only pro_{no Case}? This would be a language that exhibits only impersonal passives, which as far as I know is not an attested parameter. What are the principles that exclude such a choice of licensing conditions? This and many further questions, in particular problems of learnability, must be left to future research.

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