TOWARD A GRAMMAR OF RELATIVE CLAUSES IN T'IN

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The purpose of this paper is to describe the structure of the relative clause in T'in both from a syntactic and phonological viewpoint and to interrelate these two aspects of linguistic structure in a grammar. Of late much has been written about the close interrelatedness holding between syntactic and phonological phenomena and how both must be described, not in separate components, but in an integrated manner. The data and proposals to be presented below are meant to forward this discussion by showing that such an integration of syntactic and phonological information is necessary in describing the relative clause in T'in.

Data for the relative clause in T'in is taken from the dialect described in Filbeck (1965). The data for the relative clause from this dialect is vitiated somewhat because of a distinctive rising tone (Filbeck 1972), but it is the dialect I have spoken for a decade and I am well acquainted with its relative clause structure. However, for this paper words containing this rising tone have been included in the examples only in environments where it will not unduly complicate the phonological analysis of relative clauses. Moreover, because of restricting our data to just the one dialect, I am unable to say how valid the resulting grammatical description of the relative clause will be for other
In dialects, especially concerning the phonological aspects of the description.

2 Syntax of the Relative Clause in T'in

In this section I shall briefly discuss the syntax of the relative clause in T'in from two viewpoints: first the positional, i.e. where it occurs in relation to member constituents in construction; and second the generative viewpoint, where grammatical structure is viewed more abstractly as embodying a system of rules which accounts for various properties of the data under observation.

The relative clause is defined structurally as an embedded S(entence) dominated by the node NP. In this way it may receive an interpretation as a modifier of a head noun. This is the basic configuration of the relative clause in T'in.

1. sêc ?iibun thoon su?
   meat Boon buy spoiled
   The meat that Mrs. Boon bought is spoiled.

The words /?iibun thoon/ 'Mrs. Boon buy' is a relative clause following and modifying the head noun sêc/ 'meat' which is the subject of the verb /su?/ 'spoiled'. As can also be seen in this sentence, in relative clauses do not contain a relative pronoun.

An embedded S is not the only modifier of the head noun under the node NP in a grammar of T'in. T'in employs a system of classifiers along with numerals to denote quantity.

2. sêg bakeèw thoon piaŋ nəŋ pəl
   Pig Kaew buy two cl. die
   The two pigs which Mr. Kaew bought died.
The phrase /piaŋ naŋ/ 'two (classifiers for animals), although modifying /siŋ/ 'pig', occurs in positional order separated from the head noun by the relative clause. When a determiner is used, again modifying the head noun of the phrase, it likewise follows the relative clause and also the classifier.

3. siŋ bakæw thoon piaŋ naŋ ?eën pel
pig Kaew buy two cl. that die
Those two pigs which Mr. Kaew bought died.

An adjective, on the other hand, modifying a head noun of a Noun Phrase, occurs positionally before the relative clause but following the noun.

4. ?iaŋ kluak bakaew thoon pel
chicken white Kaew buy die
The white chicken which Mr. Kaew bought died.

An adjective, in a grammar of T'in, is most simply derived from an underlying embedded sentence also dominated by an NP node. In other words, /kluak/ 'white' above is structurally a relative clause and, as we will see below, is derived in the same manner transformationally as any other relative clause. All adjectives in T'in are also marked [+Verb] (but not all verbs are marked [+Adj]), for an adjective may occur as the main verb in a sentence. This of course is a common feature for many languages of the same area.

The structure of the possessive in relation to the relative clause in T'in is more difficult to describe. Possession of the head noun occurs positionally between the adjective and relative clause.
5. ḷiaŋ kluak ṭeŋ bækɛw thoon pəl
    chicken white I Kaew buy die
    My white chicken which Mr. Kaew bought died.

Possession in recent linguistic theory, however, is
scribed as a part of the determiner system of a
language. Without attempting to justify this assump-
on at this point, I claim that this is true of T'in
so. That is, the demonstrative '/ṭeŋ/' 'that' above
the possessive here belong to the same category.
cause the possessive and demonstrative occur in
different positions with respect to the head noun when
they occur together in a phrase, one or the other must
transformationally moved, i.e. the demonstrative
om the possessive slot or the possessive from the
monstrative slot. Again, without justifying the
procedure, I posit that it is the possessive that is
ved from a Determiner slot which occurs after the
relative clause under the node Noun Phrase. There-
re, the structural configuration of the relative
cause in T'in, including its member constituents and
ir positional, syntagmatic relationships to each
her, may be summed up by the schema in Figure 1.

NP
    ├── N
    │    ├── S
    │    │    │ [+Adj]
    │    │    └[-Adj]
    │    └── S
    └── No Class Det

Figure 1

this schema, for the purpose of this paper, I am
ly interested in discussing the embedded occurrences
S, the relative clauses. I will have nothing more
to state or claim about any other constituent in the

Figure 1 assumes that the relative clause in T' is to be described in terms of a deep structure and
surface structure. For example, the deep structure
of sentence (1) is shown in the following.

6. [sec [?iibun thoon sec]_{NP} [su?]_{PDP}

meat Boon buy meat spoiled

To derive the surface structure (1), an Equi-NP-
Deletion rule must operate. This rule states that, under conditions of identity, the occurrence of /sec
'meat' in the embedded sentence is erased by an
initial occurrence of the same form in the main
clause. Adjectives are generated by the same trans-
formational rule from the same type of deep struc-

For the sentence

7. khyaaq sec pon qua?

buffalo big eat rice

The big buffalo ate the rice.

the deep structure reads as follows:

8. [khyaaq [khyaaq sec]_{NP} [pon qua?]_{PDP}

buffalo buffalo big eat rice

Because of being identical in form and reference, the
occurrence of /khyaaq/ in the embedded sentence is
erased by an Equi-NP-Deletion rule, thus yielding the
surface structure (7).

Up to this point I have given a few illus-
trations of restrictive relative clauses in T'in. Non-
restrictive relative clauses are also possible in
this language, but they are much rarer than the
restrictive type. I have found only one environment in which nonrestrictive relative clauses occur, namely
by personal names.

bapăn phyam sêm mpuǎ?, to? ʔəc
Mr. Pan person raise cow come already
Mr. Pan, who raises cows, has returned home.

I know of no other type of noun which may also take
nonrestrictive relative clause; however, this lacuna
may be due more to my lack of success in elicitation
than to any real absence of examples in other envi-
rnonments. Despite this gap in my data, however, this
sentences is still interesting of itself. The words
phyam sêm mpuā? 'person raise cow' is a nonre-
strictive relative clause, but it does not behave
like other relative clauses in T'in, i.e. there is no
omission of any Noun Phrase in the relative clause.

One reason for this is the fact that there is no
entity (in either phonological form or true
ference) between /bapăn/ 'personal name', the
ject of the main clause, and /phyam/ 'person', the
ject of the embedded clause. Instead, the subject
the embedded clause classifies the subject of the
main clause and behaves like a relative pronoun.
other nouns, whose semantic domains also include
ose of personal names may serve in this capacity.

10. ?iibun, məəy ?iah kək puc, to? ʔəc
Boon woman boil whiskey come already
Mrs. Boon, who makes whiskey, has returned
home.

The problem confronting an analyst at this point
describing the underlying structure of nonrestrictive relative clauses in T'in. There are two
alternatives, each accounting in a primary way for different aspects of the problem.

One alternative is to emphasize the pronominal function of the subject noun of the embedded sentence. We may capture this by assuming that the deep structure of (9) contains an identical occurrence of the main clause subject in the relative clause.

11. \([\text{bap\={a}}n \ [\text{bap\={a}}n \text{ see mpu\={a}}?]]_{s} \ [\text{to? } \text{?e}\text{c}]_{p}\)  

Pan Pan raise cow come already

Next, a transformational rule would delete the second occurrence of /bap\={a}n/ above and replace it with /phyam/ 'person'. This proposal, however, would entail that such a transformational process result in a change of meaning, from the relatively restricted semantic domain of a personal name to that of a broad domain such as woman or person. This appears ad hoc and it really is a minor aspect of the subject of the nonrestrictive relative clause, for it glosses over the semantic properties, more precisely the semantic function, of the subject noun of the nonrestrictive relative clause, which is to mark or classify the semantic domain wherein the subject of the main clause falls. In other words, the relation holding between the two subjects is not one of identity but one of semantic classification: if the subject of the embedded clause includes within its semantic domain the main clause subject, then it may properly function as a (quasi-) relative pronoun of a nonrestrictive clause in T'in.

To capture this semantic property of the subject noun of the embedded sentence, we can select the second alternative and assume that the deep structure of a sentence such as (9) is no different from its
face structure, i.e. /phyam/ 'person' as the subject in \[...S\]_NP is inserted in the deep structural figuration. Because of lack of identity, the Equi-Deletion rule needed for restrictive relative use will not apply. At this level of a grammar, semantic component may now assign a pronominal-functional interpretation to the subject noun of embedded clause under the condition that this n is semantically inclusive of the domain of the n clause subject. If the deep structure meets either the condition of identity (for restrictiveative clauses and adjectives) or of semanticclusion (for nonrestrictive relative clauses), theivation is filtered out as ungrammatical.

**Intonation of Relative Clauses in T'in**

Intonation is such an elusive phenomenon of language because it is so vulnerable to the vagaries of an emotion. Anger, bliss, and special emphasis shape the intonation of a sentence first one way in another. Hardly anyone when he speaks is in that utilized state which brings forth what is considered normal, basic intonational pattern. Yet, as linguists, we feel there is such a structure embedded nowhere in language, and sooner or later a linguist describing a language will come up with just such a structure. This is what I intend to present for T'in this section, a normal, non-contrastive intonational pattern which we may consider basic and from which all other patterns are derived in some well-defined way or ways. We may term this the Normal Intonational Pattern, or NIP.

NIP in T'in consists of three degrees of stress. Stress-1 is heavy stress and is accompanied by a high
pitch level. Stress-2 is medium stress and carries an intermediate pitch level. Stress-3 is weak stress and occurs with a low pitch level. A word having a rising tone may occur in any stress position but without the redundant pitch level of the particular stress.

The normal intonational pattern of a T' in sentence can be seen in a sentence of the SVO or NVN type.

12. \( ^2 \)nan \( ^3 \)mpel \( ^1 \)\( ? \)ia\( ^\wedge \) he kill chicken
He killed the chicken.

The initial word of a sentence is Stress-2 and the final word is Stress-1, or the heavy stress of the intonational contour. The middle of the contour is somewhat more complex than the beginning or end. The usual pattern, depending on the length of the sentence, is for words to carry Stress-3 in this environment; but Stress-2 may also occur.

13. \( ^2 \)nan \( ^3 \)mpel \( ^{2/3} \)\( ? \)ia\( ^\wedge \) \( ^3 \)ph\( ^\wedge \)\( ? \) \( ^1 \)nan he kill chicken three animal
He killed three chickens.

In this sentence, \( /? \)ia\( ^\wedge / \), occurring in the middle of the NIP contour, may carry either Stress-3 or Stress 2. There appears to be free variation at this point and as a sentence becomes longer, other words may vary over either stress. While the middle of NIP contour may vary over assignment of stress, the end does not. The last word is always heavily stressed and the next to the last word (in a sentence with three or more words) is weakly stressed.
This pattern does not change even when a question or emphatic word is attached on to the end of a sentence.

14. ²nam ³mpəl ¹ʔiaʔ ¹yodo
he      kill    chicken?
Did he kill the chicken?

15. ²nam ¹mpəl ³pə?
he      kill  !
Yes he killed it!

(14) /yodo/ 'question marker' is marked for low pitch level even though it carries Stress-1. This would be considered an idiosyncratic feature of this word since it is attached to the NIP of the declarative sentence, and not considered a part of an interrogative intonational pattern. /pə?/ 'emphatic marker', in (15), carries only Stress-3 and automatically a low pitch level. Neither /yodo/ nor /pə?/ change the placement of heavy stress in the NIP of a sentence.

Let us now turn our attention to the intonation of sentences containing relative clauses and adjectives. First the environments #N-S-V# and #N-V-N-S#.

16. ²sec ³ʔibun ³thoon ¹su?
meat Boon buy spoiled
The meat which Mrs. Boon bought is spoiled.

17. ²bakəew ³ʔet ²/³sec ³ʔibun ¹thoon
Kaew take meat Boon buy
Mr. Kaew took the meat which Mrs. Boon bought.

The first sentence the relative clause /ʔibun dəon/ 'Mrs. Boon buy', occurring in the middle of
the intonation, carries Stress-3 on each word. In the next sentence the same relative clause occurs at the end of the sentence and again follows the Normal Intonational Pattern of a sentence by taking heavy stress on the final word.

Sentences with adjectives, on the other hand, are different in intonation. Consider first this sentence.

18. ³khyaak ²søk ³pon ¹ŋua?
    buffalo  big  eat  rice
    The big buffalo ate the rice.

The first word, /khyaak/ 'buffalo', instead of carrying Stress-2 as the beginning of the intonation pattern, carries Stress-3. The adjective following the noun carries Stress-2. This is a reversal of NIP discussed above where the first word carries Stress- and the second word Stress-3. When an adjective occurs at the end of a sentence, however, it follows the NIP for the sentence as a whole, carrying Stress- on the final word.

19. ²bakɛw ³mpøl ³khyaak ¹søk
    Kaew  kill  buffalo  big
    Mr. Kaew killed the big buffalo.

Intonation of sentences with nonrestrictive relative clauses is different in still another direction. Here, I have only the preverbal environment #N-S-V# to illustrate.

20. ²bakɛw, ³phyam ³sɛɛm ²mpuaʔ, ³tø? ¹ʔɛc
    Kaew  person  raise  cow  come  already
    Mr. Kaew, who raises cows, has returned home.
There is a break or juncture at the beginning of the restrictive relative clause, /phyam səm mpuə?/ person raise cow', and at the end of the clause. This can be symbolized in a transcription by placing mas before and after the clause. A close look at a nonrestrictive relative clause reveals an interesting fact about such embedded clauses in T'in: the intonational contour of a nonrestrictive relative clause is a reduction of the stress (and pitch level) of the Normal Intonational Pattern of the main clause. It is, Stress-1 is reduced to Stress-2 for the relevant positions of the embedded clause, and Stress-2 is reduced to Stress-3 for all relevant positions in the clause. Since there is no weaker stress than Stress-3, there is no reduction of this stress.

Proposed Grammar of Relative Clauses in T'in

At the outset of this paper I stated that the goal of this discussion was to interrelate both the syntactic and phonological aspects of the relative clause in T'in in an integrated grammatical description. The purpose of this section is to achieve this integration in a systematic way that will account for all aspects.

How may we construct a grammar that will account for the facts, both syntactic and phonological, that have been observed concerning the relative clause in T'in? Actually, we have already assumed a syntactic schema for describing the relative clause in stating that a relative clause is an embedded sentence initiated by the node NP. What remains to be described in a grammar are the intonational facts we have noted.
To do this I reject the formulation that intonational phenomena are described on surface structures alone. To adequately describe intonation one must take into account deep syntactic structure as well. This, of course, is not a new proposal. Joan Bresnan (1971) has stated that 'the stress contours of English sentences are determined in a simple and regular way by their underlying syntactic structure'. In another paper (Bresnan 1972), she stated that 'intonation depends systematically upon underlying syntactic structures'. This is essentially the claim I make for achieving an adequate description of intonation in T'in, especially as it concerns the generation of sentences containing relative clauses and adjectives.

To demonstrate this, let us first assume that surface structure is the sole determining factor in describing intonation. As was noted early in the discussion of the normal, noncontrastive pattern of T'in sentence, the first word carries Stress-2 and the second word Stress-3 if more than two words occur in a sentence. A phonological rule assigning stresses word by word until the end of the sentence is reached could easily be formalized for a grammar of T'in. However, such a rule would make the wrong prediction if the first two words happen to be a noun followed by an adjective. Here the stress pattern is not 23 but 32. So the rule would have to be revised to take into account this different stress pattern; but, and this is the crucial point, in order to do this, it would have to be capable of taking into account the syntactic information of whether the first two words are either noun plus adjective or noun plus verb (or some other part of speech).
ace structures are incapable of doing this. But tress is assigned on deep structures, correct idictions on stress patterns involving adjectives the surface level can be made.

Another demonstration that surface structure is inadequate to account for all the facts of nation in T'in can be seen when we try to ribe nonrestrictive relative clauses which have tures, or breaks in the intonational contour, ring in the course of the sentence. Let us me that junctures occurring in an intonational ern are assigned at the surface structure level phonological rule. What would be the basis for rule in T'in? When would juncture be assigned enerate a nonrestrictive relative clause within nence and when would no juncture be assigned to rate a restrictive relative clause? Phonologi- there is no basis. But if we consider the rlying structure of nonrestrictive relative ses, we can find a natural basis for assigning e junctures. For placement of the first ture, we can note that the first two words (the ect of the main clause and the subject of the dded clause) are nouns, not identical in form reference, and the semantic domain of the second includes that of the first noun. When these titions are met, a juncture may be placed before second noun. But this does not explain the ing of the second juncture. Here we must take account the fact that the whole internal cture is an embedded sentence whose subject meets semantic conditions just mentioned. By taking consideration these deep syntactic and semantic s, we can account for juncture assignment around
nonrestrictive relative clauses in T'in.

Still another fact about the intonation of nonrestrictive relative clauses is the observation that it is a replica of the intonation of a main clause differing only in that it has undergone a reduction of stress: Stress-1 is now Stress-2 and Stress-2 is changed to Stress-3. How may we construct a grammar that can explicitly reveal this reduction from the stress pattern of the main clause? I propose that this difference in intonation can be explained by the two phonological rules which operate at the deep structure level of a grammar and which take into account syntactic information.

21. First is an NIP Assignment Rule for every occurrence of S in the deep structure. (This is evidently cyclic in nature but the mechanics of this operation need not concern us.)

22. Second is an NIP Lowering Rule, which lowers all Stress-1 and Stress-2 of [...]_{NP} by one step each.

These two rules will generate the two types of intonational patterns found in sentences containing nonrestrictive relative clauses. Notice also that these two rules are not necessarily limited to accounting for the intonation of nonrestrictive relative clauses. This formulation is intentional, for as previously stated, I believe it will account for the intonational patterns of other sentences which contain examples of embedded [...]_{NP}.

When restrictive relative clauses are considered, we see that their stress patterns can easily
assigned by a surface structure phonological rule without any recourse to deep syntactic or semantic formation. However, when we allow the NIP Assignment Rule and NIP Lowering Rule to operate on the underlying \([...S]_\text{NP}\) of restrictive relative clauses, we can obtain the same results. That is, our proposed grammar of relative clauses in T'in has not said anything at this stage but has achieved a possible generalization concerning the intonational structure of all embedded sentences dominated by NP T'in. Figure 2 displays how these two phonological rules operate on the deep structure before the Equi-Deletion rule applies.

\[
\begin{array}{cccccc}
\text{Faak} & ?\text{iibun thoon khyaak} & [\text{poŋ ñua?}] & \text{PDP} \\
\text{S} & \text{NP} & \text{} & \text{} & \text{} & \text{NIP Assignment Rule} \\
\end{array}
\]

\[
\begin{array}{cc}
3 & 2 \\
\text{NIP Lowering Rule (for } [S]_\text{NP}) \\
\end{array}
\]

\[
\begin{array}{cc}
\text{Faak} & 3?\text{iibun} \\
\text{thoon} & 3\text{poŋ} \\
\text{ñua?} & \text{} \\
\end{array}
\]

falo Boon buy eat rice

buffalo which Mrs. Boon bought ate the rice.

Figure 2

Figure 2, however, treats only the restrictive relative clause in preverbal position. When we consider relative clauses at the end of a sentence, we discover a possible contradiction to our proposed description, for when the final word of the relative
clause is the final word of the sentence, it must carry Stress-1 and not Stress-2 which the NIP Lowering Rule would predict for the final word in [...S]. It would seem that my whole formulation of describing the intonation of sentences with relative clauses is wrong. But we should not overlook the fact that this same formulation makes an important and in essence a correct prediction about the stress pattern of T's sentences. (Unless the sentence is an interrogative but as we shall see below this has no bearing on the essential correctness of the formulation.) When rules (21-22) have applied to all relevant constructions in a deep structure, only one occurrence of Stress-1 will remain. In some cases, as in Figure 2, it will already be correctly positioned on the final word. In other cases it will not be, so a Stress-1 Readjustment Rule is needed to shift Stress-1 to its correct position in the sentence.

At first blush it would appear that this readjustment rule is a surface structure phenomenon and should be ordered after all syntactic rules have applied. That this is not true can be seen when the question marker /yóô/ or the emphatic word /pèʔ/ is attached to the end of the sentence. If, for example, Stress-1 occurs on a word positioned somewhere in the middle of the derivation of an interrogative or emphatic sentence, Stress-1 is moved to the last word positioned just before the final particle. In other words, this readjustment rule must also take into account the syntactic information of whether a final particle occurs or does not occur in a particular structural description, and therefore must be ordered within the syntactic component. Yet it must not be ordered to occur on the deep structure, for it
eracts in an interesting way with the Equi-NP-Deletion rule. The Stress-1 Readjustment Rule must be applied after this transformation rule, otherwise this mess would be deleted in certain cases, leaving an ungrammatical sentence with no Stress-1. Figure 3 demonstrates this.

\[
\text{ke\texttt{ew}}_{\text{NP}}[?\texttt{et}\ [\texttt{sec}\ {?\texttt{iibun}\ \texttt{thoon}\ \texttt{sec}}]\text{\texttt{NP}}_{\text{PDP}}\ (\gamma\ddot{o}/p\ddot{e}\?)
\]

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\[
\text{ke\texttt{ew}}\ 3\texttt{?et}\ 2\texttt{sec}\ 3\texttt{iibun}\ 1\texttt{thoon}\ (\gamma\ddot{o}/p\ddot{e}\?)
\]

Mr. Kaew take the meat which Mrs. Boon bought? (=\(\gamma\ddot{o}\))

Mr. Kaew took the meat which Mrs. Boon bought! (=p\(\ddot{e}\?)

Figure 3

Stress-1 Readjustment were ordered before Equi-NP-Deletion, then Stress-1 in the above derivation would be assigned to the last word, exclusive of the final ticle, of the deep structure. But this is the word to be deleted, in which case Stress-1 would also be deleted, leaving an ungrammatical string. By ordering the Stress-1 Readjustment after the Equi-NP-Deletion Rule, this incorrect
result can be avoided.

In Figure 3 /γòo/ and /pèʔ/ were included to show that the Stress-1 Readjustment Rule must take into account their absence or presence in order to correctly position the heavy stress of a sentence. However, no stress or pitch level was assigned to these sentence-final particles even though we know that /γòo/ must carry Stress-1 and low pitch level and /pèʔ/ must carry Stress-3 and low pitch level. These bits of phonological information were not included because I am not sure just how they are to be assigned. Earlier I mentioned that such information should be assigned in the lexicon on these two words. However, other alternatives are possible, e.g., should they be assigned, not in the lexicon, but on the deep structure for these words, or should they be assigned to the syntactic nodes which we might label Q and Emp? At present, any of these alternatives would suffice, and since there is no motivation for choosing one over the others, I will not pursue the matter further. In any event, it should be emphasized that this has no bearing on our discussion, for the Stress-1 Readjustment Rule depends on the syntactic information of sentence-final particles and not upon the phonological properties of such particles.

Rules (21-22), the NIP Assignment Rule and the NIP Lowering Rule, will account for the intonational patterns found in sentences containing adjectives, where in sentence-initial position the pattern is 3. For example, the NIP Assignment Rule will place stress on every element in [...S]_NP which underlies the surface adjective. Next, NIP Lowering will reduce all relevant stresses in [...S]_NP. This will give
adjective, normally (for our data at least) the word of an embedded sentence, a reduction from stress-1 to Stress-2. Next, a transformational rule delete the subject noun of the embedded sentence, yielding an adjective with Stress-2 modifying the final noun in the surface structure. Now, however, the final noun at the beginning of the sentence must be accented in stress by one step, for before adjectives may carry only Stress-3. This can be accomplished via the NP Stress Lowering Rule, which is ordered after the Equi-NP-Deletion Rule for the environment Adj]. Figure 4 shows the operation of these rules in the order just described in generating the notation to sentence (18) above.

\[
\text{yaak } [\text{khyak sek}]_{NP} [\text{pon $\eta$ua?}]_{PDP}
\]

2 2 1 3 1  

NIP Assignment Rule
NIP Lowering Rule
Equi-NP-Deletion Rule
NP Stress Lowering Rule (for \([-[\text{Adj}]_{NP}\])

Surfaces Structure

Buffalo big eat rice
big buffalo ate the rice.

should be noted that in a two-word sentence, the stress pattern of NIP is 21; cf. (15) above.)

Figure 4

These rules and their order of application gives us a principled explanation of why the stress pattern of initial noun plus adjective is 32 and not 23 as in sentences with no adjective in this position.
When an adjective occurs in postverbal position, we see that the NP Stress Lowering Rule interacts with the Stress-1 Readjustment Rule and so must be ordered last in a grammar of relative clauses in T'i. Figure 5 gives the motivation for this ordering.

\[ \text{[bakeew]}_{NP} [\text{mpel} [\text{khyaak} [\text{khyaak sek}]]_{SNP}]_{PDP} \]

\[
\begin{array}{cccc}
2 & 3 & 1 & 2 & 1 \\
3 & 2 & \\
\emptyset & \\
2 & 1 & \\
3 & \\
\end{array}
\]

\[ \text{bakeew} \quad \text{mpel} \quad \text{khyaak} \quad \text{sek} \]

\[ \text{Kaew} \quad \text{kill} \quad \text{buffalo} \quad \text{big} \]

Mr. Kaew killed the big buffalo.

**Figure 5**

The NP Stress Lowering Rule is ordered last in grammar because at this level it affords the most general description of \([...S]_{NP}\). If this rule were ordered before the Stress-1 Readjustment Rule, the grammar would generate ungrammatical sentences. For example, in Figure 5 above, the first occurrence of /khyaak/ is correctly assigned Stress-1. But if NP Lowering is allowed to operate before Stress-1 Readjustment, it would reduce this Stress-1 to Stress-2 because of its occurring before an adjective in this
ivation, thus yielding a sentence without heavy
ess. One way of correcting this wrong result is
put a restriction on where NP Lowering may operate.
's rule can be restricted to apply for only
verbal positions of noun plus adjective, i.e. for
sentence-initial environment \[ []^{\text{NP}} \]
's Stress-1 would be preserved for the first occu-
ce of /khyaak/ above because it occurs in a post-
bal environment. However, this restriction results
a loss of generality and a more complicated grammar,
the ad hoc addition of the symbol \# (and NP if
rule is ordered before the Equi-NP-Deletion rule).
by ordering NP Lowering last, we can allow this
ological rule to operate on just the simplified
tactic environment \[ []^{\text{NP}} \] for both preverbal
postverbal positions of the sentence.

Ordering the NP Lowering Rule last causes our
mmar to make another correct prediction about the
ess pattern of T'in sentences containing adjectives.
the surface structure of Figure 5, /khyaak/ occurs
h Stress-3. In the deep structure, this word is
igned Stress-1. Stress-1 Readjustment reduces
es by one step, but in order to generate weak
ess for this word, the NP Lowering Rule is needed,
as formulated this rule assigns Stress-3 to nouns
urring before adjectives. The original motivation
positing NP Lowering was to account for the
ital 32 stress pattern of noun plus adjective.
there is added justification for this rule
ause it is needed to account for the stress pattern
sentences containing adjectives in other positions.
Bresnan, Joan (1971), Sentence stress and syntactic transformations. Lg. 47:257-281.
Bresnan, Joan (1972), Stress and syntax: a reply. Lg. 48:326-342.
Filbeck, David (1972), Tone in a Dialect of T' in. Anthropological Linguistics 14:111-118.