

DEPENDENT MODALS, PERFORMATIVES, FACTIVITY,
BANTU SUBJUNCTIVES AND WHAT NOT¹

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1. Introduction

In this paper I will discuss two types of subjunctives, termed the subjunctive of coercion and the subjunctive of uncertainty. Of the two, the first is found in all Bantu languages, while the second is found — to my knowledge — only in ChiBemba. These two subjunctives correspond to the two main functions of the Romance subjunctive, as, for example, in Spanish:

(1) subjunctive of coercion:

Le dice a Juan que vaya

'He is telling Juan that he (Juan) must go'

(2) subjunctive of uncertainty:

Temo que no venga

'I am afraid that he won't come'

I will attempt to show that the Romance grouping of these two functions under the same morphologically-marked category is not accidental, and that a substantially similar phenomenon underlies both subjunctives of ChiBemba.

The suggestion that subjunctive tenses or moods are dependent tenses is not new. Recently Robin Lakoff [1968] has given many arguments in support of this contention in Latin, some of them tying up to the theory of performative verbs (in this connection see also Ross [1970]). It is customary within such a framework to refer to dependent tenses as transformationally derived, thus contrasting them with tense-aspect-modal

¹This paper derives in part from materials presented in my dissertation [Givón 1969:part 3. and 1970:part 4.]. I am indebted to Robert Stockwell, Paul Schachter, George Lakoff and Larry Horn for comments and suggestions. Most of the Bantu data cited are from my own field notes on ChiBemba. For the LuGanda data I am indebted to Livingstone Walusimbi. Other data are my own.

features generated by the base rules of the grammar. I will attempt to show that the term 'transformationally derived' is inappropriate here, and should be replaced by 'spelled in the second (post-cyclic) lexicon'.

While adopting essentially the same position as R. Lakoff [1968] concerning the dependent status of subjunctives, I will attempt to show that some phenomena associated with Bantu subjunctives require further elaboration of this position. Following a coercive-manipulative verb in a Romance language (i.e. verbs such as 'order', 'force', 'tell', 'insist', etc.) the verb of the sentential complement must obligatorily appear in the subjunctive form. The same is true for complements of a group of uncertainty verbs (such as 'fear', 'doubt', 'not know', etc.). Thus, in Spanish, (3) and (4) below are ungrammatical (relative to the interpretations of (1) and (2), respectively):

(3) *le dice a Juan que va

(4) *temo que no viene

In ChiBemba, however, one finds a contrast between subjunctive and non-subjunctive complements in both environments, a fact which complicates the analytic task considerably. The implications of this phenomenon and its deep relation to the analysis of the semantic structure of subjunctives will be pursued in considerable detail later on.

2. Dependent tenses and the second lexicon

For the purpose of the discussion here, the notion 'dependent tense' will be defined as 'a tense-aspect-modal which cannot appear in an independent, kernel, unembedded sentence'. I am aware that this definition is not altogether satisfactory, and some of the more common pitfalls associated with it will be discussed later on. The customary reference to 'transformational source' of dependent tenses lumps together two distinct phenomena:

- (a) Spelling in the (post-transformational) second lexicon, and
- (b) Selectional restrictions holding between the main verb and the modality of the complement verb;

Both phenomena are obviously post-cyclical or supra-cyclical, in the sense that they involve a grammatical environment wider than the unem-

bedded 'kernel' sentence itself. The first, however, does not by itself involve any aspects of the semantic structure of the tense-aspect-modal features. Thus, note the following example from Swahili, involving the 'narrative-sequential' -KA- tense:

- (5) a-li-kuja, a-KA-la, a-KA-enda
'he came (past), he ate, he left'
- (6) a-na-kuja, a-KA-la, a-KA-enda
'he is coming (present), he is eating, he is leaving'
- (7) a-ta-kuja, a-KA-la, a-KA-enda
'he will come (future), he will eat, he will leave'

It is clear that the rule which involves the replacement of the independent tenses above (-li-, -na-, -ta-) by the dependent tense -ka- does not involve the semantics of those tenses, but only the spelling. An earlier transformational approach to this problem would have inserted -li-, -na- and -ta- in all respective positions, and then changed them post-cyclically through repair rules (see Chomsky [1965]). In my terms, (5), (6), (7) above are just another proof that no tense-aspect-modality morphemes receive their spelling in the first (pre-cyclical) lexicon, but rather all of them receive it in the second (post-transformational) lexicon. An analysis of English ought to convince the linguist that the situation there is substantially identical.

Another example, this time mixed, involves the gerundive adverbial dependent tense in ChiBemba. ChiBemba has three continuous past tenses, one present-continuous and three continuous future tenses. Thus, for example:

- (8) a-àlélé-imba
'he was singing (long ago)'
- (9) a-léé-imba
'he is singing (now)'
- (10) a-kàláá-imba
'he will sing (tomorrow)'

In the following dependent-environment, however, while the semantic distinction is not eradicated, it is fully neutralized in the spelling:²

- (11) a-à-isa a-léé-imba
'he came (long ago) singing' ('he came and he was singing then')
- (12) a-léé-isa a-léé-imba
'he is coming (now) singing' ('he is coming and he is singing now')
- (13) a-kà-isa a-léé-imba
'he will come (tomorrow) singing' ('he will come and will be singing')

'Tense agreement' in English, as in:

- (14) I told him that she would not come

is again an illustration of the purely-spelling phenomenon of dependent tenses, and as such constitutes another argument for the post-cyclic spelling of modality morphemes. Further arguments may be found in Givón [1969:part II].

With respect to the subjunctive tenses of ChiBemba, it is again likely that in several respects they demonstrate the same neutralization of semantic distinction at the spelling level only. Thus, note the following:

- (15) a-à-ebele John ukuti a-y-e
'he told John (long ago) that he should leave (then)'
- (16) a-léé-eba John ukuti a-y-e
'he is telling John (now) that he should leave (now)'
- (17) a-kà-eba John ukuti a-kà-y-e³
'he will tell John (tomorrow) that he should leave (tomorrow)'

²This example also illustrates the problem of selectional restrictions, since of all the possible aspects which may appear in independent modalities, the gerundive adverbial admits only continuous tense-aspects.

³Verbs in future tenses do, however, require future subjunctives.

However, one may argue that the complement verb in all these cases is not marked for the particular time features, but is rather universally marked for [future], and that the rest is merely the consequence of the time features of the independent tense of the main verb preceding it. This may well be true, but then notice that in (15) and (16) above, although [future] must be specified in the underlying semantic structure of the complement modality, it is not spelled on the surface. This again constitutes an argument for spelling in the second lexicon. The same applies also to the subjunctive of uncertainty:

- (18) n-à-twiishika nga John a-inga-isa
'(long ago) I doubted that John would come'
- (19) n-déé-twiishika nga John a-inga-isa
'I doubt (now) that John would come'
- (20) n-kà-twiishika nga John a-inga-isa
'I will doubt (tomorrow) that John would come'

While a certain [future] modality seems to be associated with all these complements, it is not spelled by the variety of independent future tenses available in ChiBemba (-léé- 'later today', -á!áá- 'within a few hours', -kà- 'tomorrow', -ká- 'after tomorrow'), but rather, by the invariant -inga-. This clearly supports the claim about second-lexical spelling.

3. Dependent tenses and semantic-selectional constraints

A characteristic situation for dependent tenses is the reduction, sometimes drastic and other times partial, of the number of semantic distinctions which may appear in dependent environments, as against those which may appear in independent environments (for detailed discussion of this see Givón [1970:part 4]). ChiBemba has 24 independent tense-aspects: 13 past tense-aspects, 2 habitual tense-aspects, 2 present-progressive tense-aspects and 7 future ones. Within those it observes 4-5 aspectual distinctions. In most dependent tenses this wealth is reduced to no temporal distinction, and only one aspectual distinction (continuous/simple). This is the case with the subjunctive

of uncertainty, where we find:

(21) n-déé-twiishika nga John a-inga-isa
'I doubt that John would come' (simple)

(22) n-déé-twiishika nga John a-inga-láá-isa
'I doubt if John would be coming' (continuous)

In the case of the subjunctive of coercion, the reduction is only slightly less drastic, and we find 5 tenses:

(23) n-déé-eba John ukuti a-y-e
'I am telling John that he should leave' (present, simple)

(24) n-déé-eba John ukuti a-lèé-ya
'I am telling John that he should be leaving' (present, continuous)

(25) n-kà-eba John ukuti a-kà-y-e
'I will tell John that he should leave' (future, simple)

(26) n-kà-eba John ukuti a-kàlèé-ya
'I will tell John that he should be leaving' (future till tomorrow, continuous)

(27) n-ká-eba John ukuti a-kálèé-ya
'I will tell John that he should be leaving' (future after tomorrow, continuous)

In contrast with the phenomenon discussed in the preceding section, this reduction is not a mere morphological neutralization on the surface, but rather represents the absence of full semantic marking (non-specification) in these dependent-tense environments. One may wish to deal with it in one of two ways:

- (a) By making the Base Rules responsible for generating the modality features context sensitive, with disjunctive ordering (or negative environment conditions) employed to block the full expansion of certain features in specific dependent environments;
- (b) By formulating post-cyclic constraints which would block the

distribution of certain semantic features in those environments; Solution (a) above was essentially adopted in Givón [1970:part 4]; it assumes context sensitivity in the base rules. This may be distasteful to some, although it is clear to me that if one generates all semantic features by a corpus of rules which is an extension of our 'normal' (categorical) base rules -- i.e. if one adopts the generative semantics format (as in Gruber [1967]), some lower level 'feature rules' are bound to be context sensitive, since features do not cross-classify freely. Thus, for example, in (28) below (taken from Givón [1970:part 4, table 6]) the feature [-continuous] may be further expanded to [+lingering] only in the context of the time divisions [-before today] or [+before yesterday] for past tenses. This context sensitive nature of the rule is masked by the format, but may be exposed by the notational variant in (28a):

(28) [[-cont.], ($\left\{ \begin{array}{l} [-\text{before today}] \\ [+before\ yest.] \end{array} \right\}$)] \rightarrow ([+linger])

(28a) [-cont.] \rightarrow ([+linger]) / ($\left\{ \begin{array}{l} [-\text{before today}] \\ [+before\ yest.] \end{array} \right\}$)

Solutions (a) and (b) above may well be notational variants of each other. A more serious objection to (a) involves the nature of the environments which must be stipulated in context sensitive rules in order to account for reduced semantic structures: they are typically extra-kernel (and thus, in my terms, supra-cyclic) environments. In the case of subjunctives, one must mention the dominating main verb in a higher sentence. In the case of sequential-narrative tenses (see (5), (6), (7) above) one mentions a conjoined preceding sentence. In the case of conditionals one mentions the preposed 'if-S...' clause. Base rules, however, are typically a pre-cyclical component, designed to allow for the maximal possible expansion of all categories-features regardless of their embedded or non-embedded status. Thus, adopting solution (a) may be tantamount to making an erroneous claim about the scope and function of the strictly-generative component of the grammar. This argument is, however, admittedly formalistic and at the moment I see no empirical evidence which could decide it in a more convincing fashion.

In addition to the context sensitivity phenomenon shown above, another phenomenon, more properly selectional, is also involved here. First, I have already suggested above that some modality feature such as [future] is always involved in both subjunctives of ChiBemba. In more precise terms, this amounts to a selectional restriction holding between verbs of uncertainty and verbs of coercion, and the modality features of their complement verb. This is again not a surprising discovery. A similar restriction must also hold between intentional modal verbs such as 'want', 'plan', 'intend to', 'decide' etc. and the modality of their complement verbs -- even if that modality winds up being reduced to an infinitival form, as in:

- (29) n-déé-fwaaya uku-bomba
'I want to work'

Other verbs select other modalities. For example, the verbs 'remember' and 'forget' must in some sense select a [past] feature in their complement, even if it is not spelled on the surface, at least in some of their usages.⁴

Some tense restrictions between the modality of main verbs and that of their complements may also fall under this general heading, regardless of the surface disappearance of the complement tense marker. Thus:

- (30) I saw him arriving

may be interpreted only as:

- (31) He arrived, and I saw it

but never as:

⁴A counter-example to this is of course: 'I will remember to come tomorrow'; but here 'remember' functions as a modal rather than factive verb (though it still has the factive-implicature, as 'I remembered to come' implies 'I came'. For further discussion of factive implicatures, see Karttunen [1970]). Another counter-example is: 'I just remembered that he will come tomorrow'. Here 'remember' is used as a factive verb, meaning that the speaker presupposes the truth of 'He will come tomorrow', and perhaps 'something already presupposed to be true' in some sense implies 'past'.

- (32) *He is arriving, and I saw it
 *He will arrive, and I saw it

Finally, one may note that factive presuppositions (as per the verbs 'know', 'realize', 'discover') or factive implicatures (as per the verbs 'force', 'prevent', 'cause'; for details see Karttunen [1970]), must also fall under this general umbrella. That is, one may argue that factivity or existentiality is a sentence modality, and that some verbs select only sentences possessing this modality. This will be discussed further later on.

To sum up this section, the second phenomenon discussed above, in contrast with the first, clearly involves specific lexical items or groups of lexical items. One could of course express this context sensitivity by cumbersome base rules, but it seems clear to me that it is best expressed as part of the context sensitive conditions holding during lexical insertion of specific lexical items, that is, selectional restrictions. The fact that the selectional restrictions of many verbs are formulated in terms of modals or verbs in a lower (complement) cycle is not at all disturbing. Rather, it suggests that McCawley's [1968] concept of cyclical lexical insertion of verbs is indeed correct. In this framework, lower cycle modality is available as the environment for the insertion of verbs or modals in a higher cycle, but not vice versa. If one could find an example of selectional restrictions of a complement verb which are formulated in terms of the dominating higher verb, it would then constitute a counter-example to this framework.

4. Seemingly independent subjunctives

An apparent counter-argument to my contention that subjunctives are dependent tenses may cite the fact that verbal in the subjunctive form may appear in utterances that are not dominated by higher verbs on the surface. R. Lakoff [1968] has discussed the same phenomenon in Latin, and has shown evidence for positing a higher (performative) verb in instances of this kind. Both subjunctives of ChiBemba may appear in seemingly independent utterances:

- (33) subjunctive of coercion:
 a-y-e 'he may/should/must leave'
 a-léé-ya 'he may/should/must be leaving'
- (34) subjunctive of uncertainty:
 a-inga-isa 'he might come'
 a-ingaláá-isa 'he might be coming'

There are several reasons why the solution of positing a higher verb is attractive.

a. Paraphraseability

The utterance (33) above is multiply ambiguous and may be paraphrased correctly by either one of the following:

- (35) n-déé-fwaaya ukuti a-y-e 'I want him to leave'
 (36) n-déé-koonkomeshya ukuti a-y-e 'I order/demand that he leave'
 (37) n-déé-sumina ukuti a-y-e 'I permit/allow that he may leave'
 (38) n-déé-koshya ukuti a-y-e 'I encourage/suggest that he should leave'
 (39) n-déé-soka ukuti a-y-e 'I urge that he must leave'
 (40) n-déé-sosa ukuti a-y-e 'I say/demand that he should leave'

All these verbs may take a subjunctive complement in ChiBemba (and require a subjunctive complement in Romance). There are two other facts about these paraphrases which are of great significance: First, the paraphrase is good only if the first person pronoun is employed. Thus, (41) and (42) below could not correctly paraphrase (33):

- (41) u-léé-fwaaya ukuti a-y-e 'You want him to leave'
 (42) a-léé-fwaaya ukuti a-y-e 'He wants him to come'

Second, the paraphrase is good only if the present tense is employed. Thus, (43) and (44) below cannot correctly paraphrase (33):

- (43) n-àlf-fwaaya ukuti a-y-e 'I wanted him to leave'
 (44) n-kà-fwaaya ukuti a-kà-y-e 'I will want him to leave'

But these two requirements, first person speaker and present tense, are precisely the requirements for the appearance of a performative verb! Another requirement for a performative, that of second person hearer (at least implied), also seems to be satisfied. Thus, note that while (39) is a correct paraphrase of (33), (45) below is not:

(45) n-dée-mu-soka ukuti a-y-e 'I urge him that he should leave'

But, in contrast, (46) is a correct (and more specific than (39)) paraphrase of (33):

(46) n-dée-ku-soka ukuti a-y-e 'I urge you that he should leave'

Similar facts are observed with respect to the subjunctive of uncertainty. Thus, (34) above may be paraphrased by either:

(47) n-dée-twiishika a-inga-isa 'I doubt that/if he'll come'

(48) n-dée-subila a-inga-isa 'I hope that he will come'

(49) n-dée-tina nga a-inga-isa 'I am afraid that he might come'

(50) n-shiléeé-ishiba a-inga-isa 'I don't know if he will come'

As above, the paraphrases hold only with first person speaker and present tense. The similarity of these requirements to those of performatives could of course be accidental, though I rather doubt that.

b. Distribution

There are several environments in which a performative may not be inserted. One of them is a restrictive relative clause. Another is questions. Another is 'if-S...' clauses in conditionals. On the surface these environments hold nothing in common. However, one may argue that each one of them precludes performatives for a specific reason. First, performatives by definition have no truth value. However, restrictive relative clauses (modifying non-generic nominals) are presupposed to be true. Second, a performative cannot be inserted under another performative. But questions involve a performative. Further, questions involve the presupposition that the utterance questioned must have some truth value. Thus:

(51) Did John come?

implies:

(52) Either John came or John did not come

and:

(53) Who came?

implies:

(54) Someone came

Third, (non-counter-factual) conditionals involve, in some deep sense, [future] modality. But performatives by definition involve [present] only. If a potentially performative verb is inserted in an 'if-S...' clause of a conditional, it loses its performative function:

(55) I promise to give you my notes (performative)

(56) If I promise to give you my notes, would you help me then?
(non-performative)

With respect to counter-factual conditionals, whose 'if-S...' clauses do not admit performatives either, they involve a (negative) factive presupposition, i.e.:

(57) Had he come, I would have seen him

implies:

(58) He did not come

However, as I have suggested above, performatives have no truth value. It is therefore natural not to find them in this environment.

Now, the grammatical environments which do not admit performatives are precisely those which do not admit the 'seemingly independent' subjunctives. Thus, for rel. clauses:

(59) umuana uyo a-à-ile... 'The child who left...'

(60) umuana uyo a-kà-ya... 'The child who will leave...'

(61) umuana uyo a-léé-ya... 'The child who is leaving...'

but:

(62) *umuana uyo a-y-e...

(63) *umuana uyo a-lèé-ya...

nor:

(64) *umuana uyo a-inga-ya...

Sentences (62), (63), (64) may be rendered grammatical if the appropriate higher verb is added. However, the verb will then lose its performative function:

(65) umuana uyo n-déé-koonkomeshya a-y-e...

'That child that I am ordering to leave...'

(66) umuana uyo n-déé-tina nga a-inga-isa...

'The child that I'm afraid will come...' ('The child whose coming I fear...')

The same restriction holds with respect to questions:

(67) bushye, a-à-isa? 'Has he come?'

(68) bushye, a-kà-isa? 'Will he come?'

but:

(69) *bushye, a-is-e?

(70) *bushye, a-inga-isa?

Finally, neither subjunctive may appear in conditionals in the 'if-S...' clause:

(71) nga John a-kà-isa, niinshi Mary a-kà-ya

'If John comes (tomorrow), then Mary will leave (tomorrow)'

(72) à-u-isa, ... 'Had you come, ...'

à-u-láá-isa, ... 'Had you been coming, ...'

but:

(73) *nga John a-is-e, niinshi Mary a-kà-ya

(74) *nga John a-inga-isa, niinshi Mary a-kà-ya

(75) *à-u-inga(l^áá)-isa, ...

(76) *à-u-is-e, ...

To conclude this section, then, I would like to suggest that although at the moment more solid proofs (of the type presented by R. Lakoff [1968] for Latin) are not available, the facts of paraphrase and distribution clearly point out in the direction of a higher verb solution for the seemingly independent subjunctives. I believe it is most likely that the ultimate solution will indeed mesh up with a wider theory of performative verbs.

5. Subjunctives in contrast with other complements

The life of the linguist would have been made considerably easier if Bantu subjunctives were obligatorily chosen following certain verbs, as in the case in Romance languages as well as in most Bantu languages. Unfortunately, there are those Bantu languages in which, following verbs of coercion or verbs of uncertainty, subjunctive complements may contrast with non-subjunctive ones. In this section I will attempt to both describe this phenomenon and discuss its implications with respect to the theory of grammar.

a. Subjunctive of coercion

In ChiBemba one finds the following three-way contrast:

(77) Finite ('tensed'):

John a-à-koonkomeshya Robert a-à-boombele

'John forced Robert to work' ('John ordered Robert (long ago)
and Robert worked (long ago)')

John a-à-eba Robert a-à-boombele

'John told Robert to work (and Robert did work, long ago)'

(78) Infinitive:

John a-à-koonkomeshya Robert uku-bomba

'John forced Robert to work'

John a-à-eba Robert uku-bomba

'John told Robert to work (and Robert did work)'

(79) Subjunctive:

John a-à-koonkomeshya Robert a-bomb-e

'John ordered Robert to work' (and Robert may or may have not complied)

John a-à-eba Robert a-bomb-e

'John told Robert to work' (and Robert may or may have not complied)

A coercive verb in ChiBemba, then, can either have or not have factive implicatures. The subjunctive form of the complement is spelled in the second lexicon only if the complement does not have a factive implicature.

A parallel situation appears in Luganda:

(80) Factive, non-subjunctive:

John yà-lagira bu-lagizi Robert oku-kola

'John forced Robert to work'

John yà-waliriza bu-waliliza Robert oku-kola

'John made Robert work'

John yà-tegeka bu-tegesi Robert oku-kola

'John prepared Robert for work -- (and Robert worked)'

John yà-kkiriza bu-kkiriza Robert oku-kola

'John allowed Robert to work -- (and Robert worked)'

John yà-ziyiza bu-ziyiza Robert oku-kola

'John prevented Robert from working'

(81) Non-factive, subjunctive:

John yà-lagira Robert a-kol-e

'John ordered Robert to work'

John yà-waliriza Robert a-kol-e

'John insisted/demanded/convinced/ordered Robert to work'

John yà-tegeka Robert a-kol-e
 'John prepared Robert to work'
 John yà-kkiriza Robert a-kol-e
 'John allowed Robert to work'
 John yà-ziyiza Robert a-kol-e
 'John forbade Robert to work'

Thus, the subjunctive complement form is 'spelled out' in Luganda only if no factive implicature is involved. If one is involved, the infinitive form is 'spelled', in addition to a cognate object nominalization of the main verb itself. Where both Luganda and ChiBemba differ from English radically, is at the lexicalization level of dealing with factivity. English lexicalizes a different main verb if a factive implicature is present. While Luganda and ChiBemba lexicalize the same main verb, but a different complement form.

At the moment, I see two ways of taking care of this phenomenon:

- (a) Through a context-sensitive base rule: Assume that a semantic category [subjunctive] is optionally generated in the environment of complements of coercive verbs;

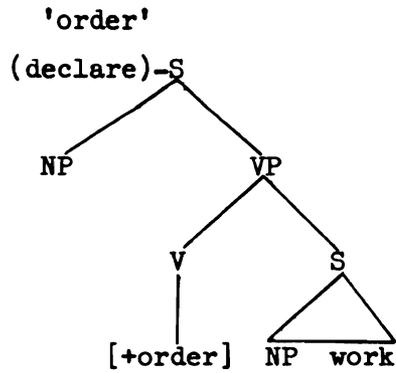
This solution has considerable drawbacks. First, as I have already indicated earlier, supra-cyclic (extra-kernel) environments in context-sensitive base rules are somewhat undesirable. Second, it is clear that we are dealing here with a sub-set of the phenomena of factivity. The category [subjunctive] is semantically empty, it merely signals that no factive implicature is involved. We would thus be making an absurd claim that a marked category is generated in the absence of a marked semantic entity.

- (b) Through incorporating the factive implicature as part of the deep structure of the utterance. Then, given its presence, the (post-cyclic) second lexicon would 'spell' non-subjunctive forms of complements; while if a factive implicature is not present, a subjunctive complement form will be spelled.

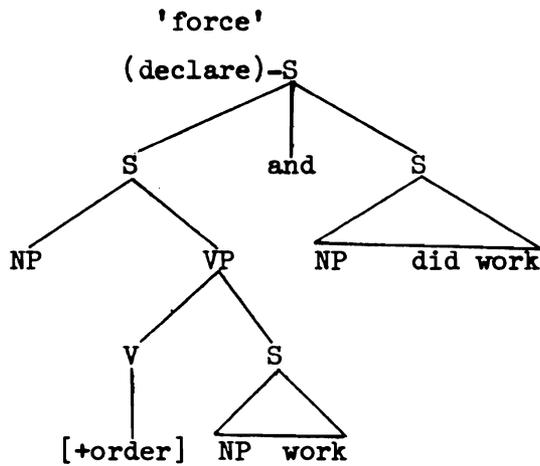
The formalisms associated with this type of solution may vary. One may assume that a conjunction may be involved in the deep structure where

factivity is assumed, so that the difference between 'order' and 'force' (both -koonkomeshya in ChiBemba) may be expressed as:

(82)



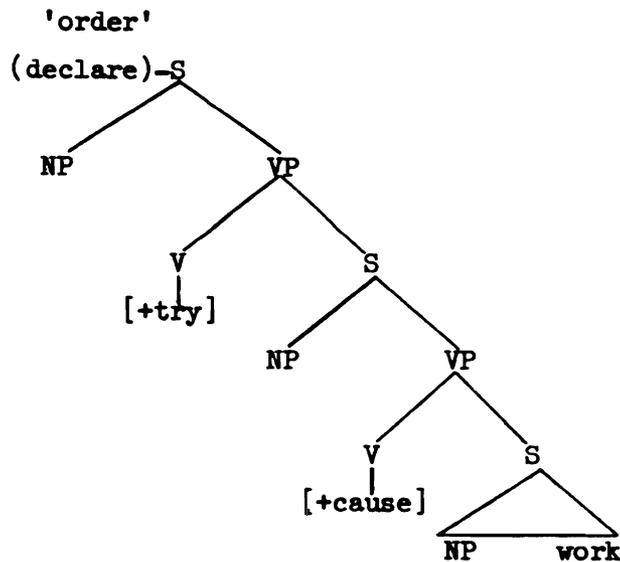
(83)



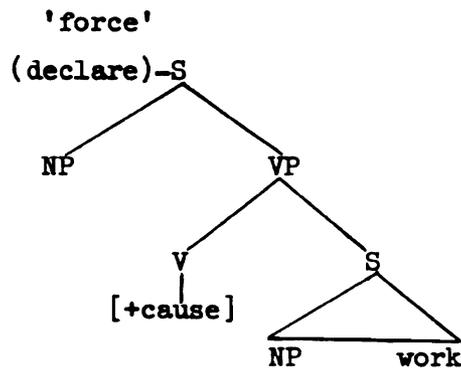
Factivity under this type of solution may arise from a proposition embedded directly under the top performative 'declare'.

Alternatively, one may wish to ascribe the difference between 'force' and 'order' to the presence of a factivity-suspending verb such as 'try' in the deep structure of 'order', so that:

(84)



(85)



Finally, one may assume, as I have suggested earlier, that factive implicature is a sentence modality, associated with the complement sentence in the case of 'force', 'make', 'cause', 'prevent', but not in the case of 'order', 'demand', 'insist', 'forbid'. At the moment this solution seems to me to be the most attractive, although admittedly I see no compelling empirical grounds to justify this gut reaction.⁵

⁵The status of the verb 'try' is nevertheless quite intriguing. It nullifies the factive implicature of any coercive verb inserted under it. Further, it seems to nullify the factivity of factive-cognition verbs such as 'know', 'discover'. Thus, one may not embed 'I discovered that John came' under 'try', but only 'I discover whether John came':

*I tried to discover that John came

I tried to discover whether John came

'Whether', 'if' by themselves may be inserted only in the absence of factivity of the proposition embedded under them.

b. Subjunctive of uncertainty

This subjunctive form presents somewhat less of a headache. First, within the group of cognition verbs,⁶ only the non-factive ones, such as 'doubt', 'hope', 'fear', 'think', 'guess', 'believe' may take this complement form. This strongly suggests some common denominator between the two subjunctive phenomena in ChiBemba. Factive verbs such as 'know', 'be sure' etc. may not take this subjunctive complement. However, their negatives may:

- (86) *n-déé-ishiba a-inga-isa
 n-shiléé-ishiba a-inga-isa (negative, non-factive)
 'I don't know if he'll come'
 n-déé-ishiba ukuti a-à-ishile (factive, tensed)
 'I know that he came'

Some non-factive verbs become factive by negation, and their negatives may not take the subjunctive complement, as in 'doubt':

- (87) n-déé-twiishika a-inga-isa
 'I doubt if he'll come'
 *n-shi-léé-twiishika a-inga-isa
 n-shi-léé-twiishika ukuti a-à-ishile
 'I don't doubt that he came'

Other non-factive verbs remain non-factive in negation, though this may be due to neg-raising ('afraid', 'believe'):

- (88) n-déé-tina nga a-inga-isa
 'I am afraid that he might come'
 n-shiléé-tina nga a-inga-isa
 'I'm not afraid that he might come' (but perhaps also: 'I'm
 afraid that he might not come')

⁶In Givón [1969:part 3.] I have labeled this group 'quote verb'. It is clear to me now, however, that the few expression verbs in this group ('say') are incidental, and that the common denominator is cognition.

Following non-factive verbs of cognition (in my terminology here 'verbs of uncertainty'), one may find a contrast between subjunctive and tensed (finite) complement verbs. However, no change in the factivity is here involved. Rather, the contrast seems to be between fully specified tense-aspect-modality and unspecified modality. It is thus reminiscent of the contrast between infinitive and finite-tensed complements following verbs of coercion, see above.

- (89) n-twiishika nga a-inga-isa
'I (always) doubt if he may come'
- (90) n-twiishika nga a-léé-isa
'I always doubt that he is then coming'
- (91) n-twiishika nga a-kà-isa
'I always doubt if he'll come the next day'
- (92) n-twiishika nga a-ǝ-isa
'I always doubt if he always comes'

This contrast, as well as the contrast between the infinitive and finite complements of coercive verbs, raises the general question concerning the optionality of applying some of the generative rules of the base. For further discussion of this problem, in relation to many other dependent tense-aspect-modals, see Givón [1970:part 4.].

6. Conclusion

I have attempted to sketch out some of the problems arising from Bantu subjunctives. Most of these problems are rather universal. The fact that one must invoke as varied an assortment of grammatical devices as second lexical spelling, post-cyclic constraints, factive modality, performative verbs and optional generation in the base rules, should not necessarily be construed as discouraging. In analyzing dependent tenses such as 'subjunctive', one is indeed dealing with a complex phenomenon where many areas of the grammar intersect. It would be surprising to see phenomena of this kind disposed of in a neat, one compartment manner. The fact that many of them have thus far resisted solution rather successfully, should testify to their potential complexity. This same

complexity may well serve to illuminate and give independent justification to portions of the theory of grammar which have until now remained relatively underdeveloped.

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