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Subject Inversion and Intransitive Subject Incorporation

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1. **Introduction.** The data central to this paper comes from the Bantu language Kinyarwanda, which will be used as the starting point in the discussion of several cross-linguistic phenomena. The word order in Kinyarwanda is strictly SVO; the language has 19 grammatical classes, and the predicate agrees with the subject in class; there are no articles.

A regular active intransitive construction in Kinyarwanda is illustrated by (1):

- (1) *aba-shyitsi ba-ra-ririmbir-a mu gisagára*
CL2-guest CL2-PRES-sing-IMPF in village
'The guests are singing in the village.'

The construction in (1) can undergo the following surface changes: the preverbal subject is postposed after the verb and no longer triggers verbal agreement, as in (2a); optionally, the locative phrase can prepose the verb (2b). The resulting construction is known in the literature as the Locative Inversion or the Subject Inversion construction.

- (2) a. postposed subject with the locative phrase *in situ*
ha-ra-ririmbir-a aba-shyitsi mu gisagára
CL16-PRES-sing-IMPF CL2-guest in village(CL7)
'There are guests singing in the village.'
- b. postposed subject with the fronted locative phrase
mu gisagára ha-ra-ririmbir-a aba-shyitsi
in village(CL7) CL16-PRES-sing-IMPF CL2-guest
'In the village there are guests singing.'

Positioning the inverted subject after the locative *in situ* is ungrammatical, as shown by (2c):

- (2) c. **ha-ra-ririmbir-a mu gisagára aba-shyitsi*
CL16-PRES-sing-IMPF in village CL2-guest
'There are guests singing in the village.'

The construction in (2) can be used only if the location and/or time of the respective event is either explicitly expressed or is recoverable from the context. In other words, the construction has an obligatory event argument. The semantics of the construction are clearly existential, as conveyed by the translations above. Despite these existential semantics, Kinyarwanda allows a fairly extensive group of verbs to occur in this construction, including some unergatives (compare the unergative verb 'sing' in (2)); this sets Kinyarwanda aside from a number of other

languages which limit this construction to unaccusatives only. In Kinyarwanda, the major syntactic constraint is that the verb be intransitive in the final structure; this includes passive and antipassive (the characteristics of verbs occurring in this construction are discussed in detail in Polinsky 1992).

Given that the locative phrase may stay *in situ*, as in (2b), the name Locative Inversion is not quite adequate. Below, constructions such as (2) will be referred to as Subject Inversion constructions. Such constructions have been analyzed in several frameworks (e.g., Bresnan and Kanerva 1989; Hoekstra and Mulder 1990; Levin and Rappaport Hovav forthcoming). In the discussion below, I will adopt a more or less inclusive analysis strategy, trying to bring together the results of the existing earlier analyses without specifically choosing one framework over another. In the work done so far on Subject Inversion, several points have become well-established across frameworks:

first, the inverted nominal differs from the non-inverted subject in the partial or total absence of subject properties;

second, the Subject Inversion clause has to include a locative or possessive phrase, though not necessarily fronted or even overt; this phrase sometimes becomes a subject (as shown best for Chichewa in Bresnan and Kanerva 1989); if it remains a prepositional phrase, it has complement status, and not adjunct status;

third, Subject Inversion typically occurs with unaccusative or ergative verbs, which is evidently not the case in Kinyarwanda.¹

While the dissimilarity between the non-inverted and inverted subject has been well-established, it is unclear whether the inverted nominal is a subject, an object, or a non-term, and whether there could be cross-linguistic differences in its status.

This crucial question of the syntactic status of the inverted subject is addressed in detail in this paper. In section 2, I will analyze the grammatical relation borne by the inverted subject in Kinyarwanda and show that this nominal is a non-term. I will then show that it differs from other non-terms in Kinyarwanda in that it forms a single clause constituent with the verb.

The latter finding motivates the subsequent comparison between the inverted subject and the incorporated nominal in the Subject Incorporation construction (section 3). In particular, I will look at evidence that the inverted subject and the incorporated subject can function as internal heads, determining discontinuous modifiers (section 4).

2. Syntactic analysis of the Subject Inversion construction.

2.1. **The inverted nominal as a non-term.** The analysis of grammatical relations in clauses such as (1) and (2) is based on the assumption that the following grammatical relations obtain in Kinyarwanda:

(3) Subject > Direct Object > Indirect Object > Oblique Object³ > non-term
 <-----arguments (terms)----->

A short terminological clarification is in order here. Terms differ from non-terms in being syntactically active, that is, in being able to control syntactic

processes. Throughout the paper, the words "term" and "non-term" denote purely syntactic phenomena, that is, presence or absence of syntactically active properties. These notions do not specify whether a clause constituent is optional or not. While this might not be important for terms, it is highly relevant for non-terms, which can be syntactically inactive but still obligatory in the clause structure. Unlike terms and non-terms, which are purely syntactic, arguments and adjuncts are sometimes associated with the semantic obligatoriness/optionality, respectively.

To determine what grammatical relations are borne by the bare nominal (presumably the subject) and by the locative phrase, it is necessary to obtain the relevant syntactic properties characterizing the grammatical relations in Kinyarwanda. This has been done in several earlier publications (Kimenyi 1980; Dryer 1983; Perlmutter 1990; Gerdts and Whaley 1992; Polinsky and Kozinsky 1992; Polinsky 1992); therefore, this paper will simply summarize the relevant properties here:

(4) Properties of grammatical relations in Kinyarwanda					
property	subject	DO	IO	OO	non-term
verbal agreement	yes	no	no	no	no
choice of delimiter 'only'	-nyiné	<i>gusa</i>	<i>gusa</i>	<i>gusa</i>	<i>gusa</i>
control of the purpose clause	yes	no	no	no	no
control of the coref. null copy	yes	yes	no	no	no
control of the incorporated					
pronoun in the verb	yes	yes	yes	no	no
Plain Topicalization	yes	yes	yes	no	no
Passivization	N/A	yes	yes	no	no
Relativization	yes	yes	yes	yes	no
Clefting	yes	yes	yes	yes	no

As (4) shows, non-terms are syntactically totally inactive, while the lowest term, Oblique Object, has at least two active properties, namely, accessibility to Relativization and accessibility to Clefting.

In the rest of the paper, I will not be dealing with the grammatical relation borne by the locative phrase; I will mention here that the locative phrase does not acquire any active properties, thus remaining syntactically a non-term. This distinguishes the Subject Inversion construction in Kinyarwanda from a similar construction in Chichewa, where the locative phrase has to become a subject (Bresnan and Kanerva 1989: 9-14).

Given the set of properties in (4), let us examine the grammatical relation borne by the nominal 'guests' in (1) and (2a, b).

In (1), the preposed nominal 'guests' has all the relevant subject properties, namely, it determines verbal agreement (Class 2), it can be modified by *-nyiné* but not by *gusa*, as shown in (5a, b), it controls the infinitival purpose clause (6), and it controls the null copy across clause (7).

- (5) selection of *-nyiné* for 'only'
 a. *aba-shiytsi bóo-nyiné ba-ra-siinziir-a muri iyi inzu*
 CL2-guest CL2-only CL2-PROGR-sleep-IMPF in this house
 'Only the guests are sleeping in this house.'
 b. **aba-shiytsi gusa ba-ra-siinziir-a muri iyi inzu*
 CL2-guest only CL2-PROGR-sleep-IMPF in this house
 'Only the guests are sleeping in this house.'
- (6) control of the infinitival purpose clause
aba-shiytsi ba-ra-siinziir-a muri iyi inzu Ø ku-guma
 CL2-guest CL2-PROGR-sleep-IMPF in this house Ø INF-rest
mbere y'umurimo
 before PRP work
 'The guests are sleeping in this house to get some rest before work.'
- (7) control of the null copy across clause
aba-shiytsi ba-ra-siinziir-a muri iyi inzu Ø
 CL2-guest CL2-PROGR-sleep-IMPF in this house Ø
ba-ra-na-hiigiz-a
 CL2-PROGR-and-snore-IMPF
 'The guests are sleeping in this house and are snoring.'

Thus, the preverbal NP in (1) is clearly a subject. After it undergoes inversion, the inverted subject loses all subject properties. Thus, in (2), it no longer determines verbal agreement: the verb now takes the agreement marker of the so-called locative class 16. As shown by (8a), the inverted subject cannot be modified by *nyiné* and has to be modified by *gusa* (8b):

- (8) selection of *gusa* for 'only'
 a. *muri iyi inzu ha-ra-siinziir-a aba-shiytsi gusa*
 in this house CL16-PROGR-sleep-IMPF CL2-guest only
 'In this house are sleeping only guests.'
 b. **muri iyi inzu ha-ra-siinziir-a aba-shiytsi bóo-nyiné*
 in this house CL16-PROGR-sleep-IMPF CL2-guest CL2-only
 'In this house are sleeping only guests.'

The inverted subject cannot control the infinitival purpose clause, as shown by (9) (compare (6)):

- (9) **muri iyi inzu ha-ra-siinziir-a aba-shiytsi Ø ku-guma*
 in this house CL16-PROGR-sleep-IMPF CL2-guest Ø INF-rest
 'In this house are sleeping guests to get some rest.'

The inverted subject cannot control the null copy across clause, compare (7) above and (10):

- (10) **muri iyi inzu ha-ra-siinziir-a aba-shiytsi*
 in this house CL16-PROGR-sleep-IMPF CL2-guest
ha-ra-na-hiigiz-a Ø
 CL16-PROGR-and-snore-IMPF Ø
 'In this house are sleeping the guests and are snoring.'

Examples (8)-(10) show that the inverted nominal is not a subject. The next question is whether it has any object properties. The minimal object property in Kinyarwanda is accessibility to direct relativization and clefting. The inverted subject cannot be relativized, compare (11), or clefted. Note that the position of the locative phrase, which might be viewed as an interfering factor, does not affect the grammaticality of (11a) or (11b).

- (11) inaccessibility to Relativization
 a. **aba-shiytsi mu gisagára haa-ra-ririmbir-a*
 CL2-guest in village CL16.REL-PRES-sing-IMPF
 'the guests that in the village are singing'
 b. **aba-shiytsi haa-ra-ririmbir-a mu gisagára*
 CL2-guest CL16.REL-PRES-sing-IMPF in village
 'the guests that are singing in the village'

To conclude, the inverted subject is a non-term. It was mentioned above that the locative phrase in the Subject Inversion clause does not acquire subject properties. Thus, the Subject Inversion construction in Kinyarwanda can be identified as having a null expletive subject. Below, I will refer to such constructions as impersonal, opposed to personal constructions, which have a semantically and syntactically non-empty subject (as in Chichewa).

2.2. **The inverted nominal and the verb: a single constituent.** So far, it has been shown that the inverted subject differs from terms in being syntactically inactive. I am now going to look at the linear and tonal characteristics of the inverted subject. It appears that at least three characteristics distinguish the inverted subject both from terms and from other non-terms.

1) **Inseparability.** Since Kinyarwanda has a strict SVO order, only a closed set of nominals can immediately follow the verb. In a transitive clause, the Direct Object follows the verb, followed by non-terms, if there are any. In a double or triple object clause, the Indirect Object follows the verb (some exceptions, related to animacy, are discussed in Polinsky and Kozinsky 1992). In the Subject Inversion construction, as we have seen, the inverted subject follows the verb.

In general, few lexical items can separate the verb from the following object NP; these lexical items include manner adverbials and sentence particles, which, cross-linguistically, often occur in such linear positions where heavier words are not allowed.⁴

Examples (12a,b) show that a manner adverbial and a particle, respectively, can separate the verb from the Direct Object:⁵

- (12) a. *umukoóbwa ya-ø-mesh-e* *cyaane imyéenda*
 girl CL1-PAST-wash-PERF "manner" clothes
 'The girl washed the clothes hard/well.'
 b. *umukoóbwa ya-ø-mesh-e* *dore imyéenda*
 girl CL1-PAST-wash-PERF EMPH clothes
 'The girl indeed washed the clothes.'

Non-terms, the passive agent, for instance, can easily be separated from the verb, as shown by (13):

- (13) *imy-eénda i-ø-meshe-ejw-e* *cyaane n'umukoóbwa*
 CL4-clothes CL4-PAST-wash-PASS-PERF "manner" by girl
 'The clothes were washed hard/well by the girl.'

However, the adverbial cannot intervene between the verb and the inverted subject; compare (14a), which is ungrammatical because of the position of the adverbial:

- (14) a. **mu máazi h-ø-oog-a* *cyaane aba-húungu*
 in water CL16-PRES-swim-IMPF "manner" CL2-boy
 'In the water, swim boys a lot.'
 b. *mu máazi h-ø-oog-a* *aba-húungu cyaane*
 in water CL16-PRES-swim-IMPF CL2-boy "manner"
 'In the water, swim boys a lot.'

Similarly, (15a) is ungrammatical because the question particle cannot separate the verb from the inverted subject (compare (15b, c), which are well-formed):

- (15) a. **ha-ri koko ibi-tí bi-ba mu múgi?*
 CL16-PRES-be indeed CL8-tree CL8-be in city
 'Are there indeed trees in the city?'
 b. *koko ha-ø-ri ibi-tí bi-ba mu múgi?*
 indeed CL16-PRES-be CL8-tree CL8-be in city
 c. *ha-ø-ri ibi-tí bi-ba mu múgi koko?*
 CL16-PRES-be CL8-tree CL8-be in city indeed
 'Are there indeed trees in the city?'

The comparison between (12), (13), on the one hand, and (14a), (15a), on the other, demonstrates that an inverted subject differs from a VP-internal argument such as Direct Object and from a non-term such as passive agent in being more closely attached to the verb.

2) Phrasal phonology. The next argument in favor of this distinction comes from the tonal rules that operate on the verb and the inverted subject; these rules, which won't be discussed here in detail, indicate that the verb and the nominal

form a single tonal phrase, which again sets this complex apart from the sequence {verb - non-term}, which does not comprise a single tonal phrase (see also Kimenyi 1979: 73-104).

Incidentally, sequences {verb - DO} or {verb - IO} also seem to form a single tonal phrase; the same results obtain for Chichewa (Bresnan and Kanerva 1989: 5-9). However, the sequence {verb - inverted subject} obeys two constraints, the inseparability by an adverbial/particle, and the single tonal phrase constraint; meanwhile, the sequence {verb - object} has only the latter constraint.

3) Alternation with a null word or accessibility to deletion. For the purposes of this analysis, two types of null words are recognized:

- (i) the coreferential null word, which has a variable referential interpretation and functions as the null copy of a previously occurring antecedent;
 (ii) the non-specific null word, which is interpreted 'for any X that...' or 'for some existing X that...'

Control of the coreferential null word is a property of higher grammatical relations: thus, it is typical of subjects to control coreferential deletion across clauses. It was already shown above (10) that the inverted subject cannot control the null copy across clause.

The non-specific null word works the other end of the GR hierarchy: cross-linguistically, it is common for non-terms to be replaced by non-specific null words. Compare for a passive agent:

- (16) a. *imy-eénda i-ø-meshe-ejw-e* *n'umukoóbwa*
 CL4-clothes CL4-PAST-wash-PASS-PERF by girl
 'The clothes were washed by the girl.'
 b. *imy-eénda i-ø-meshe-ejw-e* $\emptyset_{\text{non-specific}}$
 CL4-clothes CL4-PAST-wash-PASS-PERF
 'The clothes were washed (by someone).'

In Kinyarwanda, the inverted subject cannot be deleted under any circumstances; compare (17a), and (17b), where the non-specific null word appears:

- (17) a. *mu máazi h-ø-oog-a* *aba-húungu*
 in water CL16-PRES-swim-IMPF CL2-boy
 'In the water, swim boys.'
 b. **mu máazi h-ø-oog-a* $\emptyset_{\text{non-specific}}$
 in water CL16-PRES-swim-IMPF
 'In the water, they swim.'

This inaccessibility to deletion also sets the inverted subject aside from other non-terms. Thus, the inverted subject differs from other non-terms in linear and phonological fusion to the verb and in the accessibility to deletion.

The data from Chichewa, examined in detail by Bresnan and Kanerva 1989, confirm this analysis. Specifically, Bresnan and Kanerva show that the inverted subject has no subject properties and that it forms a single tonal phrase with the verb, like Direct Object. However, this inverted nominal does not have any active syntactic properties characterizing Direct Object in Chichewa.⁶ Bresnan and Kanerva do not test whether adverbials and particles can separate the verb from the Direct Object, on the one hand, and the verb and the inverted subject on the other. A speaker of the central dialect I consulted allowed the insertion of the adverbial between the verb and the Direct Object, as shown in (18a, b) but not between the verb and the inverted subject, as shown in (19a):

- (18) a. *akuimbá bwino nyimo anyani*
are singing "manner" songs baboons
'The baboons are singing songs well.'
b. *ikani bwino makasu umo*
put(IMPERATIVE:PL) "manner" hoes inside
'Put the hoes inside carefully.'
- (19) a. **mmitêngo mwakhala bwino anyani*
in trees are singing "manner" baboons
'In the trees are singing well baboons.'
b. *mmitêngo mwakhala anyani bwino*
in trees are singing baboons "manner"
'In the trees are singing well baboons.'

Thus, while the verb and the Direct Object can form a single tonal phrase, there is no inseparability condition for this sequence. Meanwhile, the verb and the inverted subject have to form a single tonal phrase and cannot be separated by intervening lexical material. This indicates that Chichewa has the same distinction between the inverted subject and non-terms, on the one hand, and the inverted subject and Direct Object, on the other, that we just observed in Kinyarwanda. The only difference is that Chichewa requires that the locative phrase become subject (for analysis, see Bresnan and Kanerva 1989: 9-14).

The difference between the inverted subject and object terms/non-terms can be explained if the following analysis is adopted: the inverted subject forms a single constituent with the verb. Given the data above, the verb and the inverted subject can be analyzed as forming a single phonological and syntactic phrase composed of two lexical words. There seems to be no reason to treat this as a lexical process, first, because Kinyarwanda has lexical compounds that do not function as a single tonal phrase (for example, *kare na kare* 'beforehand'), and second, because the process is lexically unbounded as far as the inverted nominal is concerned (the restrictions on the verb type, mentioned above, are syntactic).

Such formation of a single clause constituent with the verb as the head is consistent with the Incorporation analysis, where the verb and the noun constitute a complex verb and this verb has its own arguments and adjuncts (Baker 1988). The Incorporation analysis explains the inseparability of the verb and the nominal,

the phrasal phonology, and the inaccessibility of the inverted subject to deletion. It also accounts for the syntactically inactive behavior of the incorporated nominal as compared to the non-incorporated nominals.

Altogether, the Subject Inversion construction in Kinyarwanda then has the following structure: the verb and the inverted subject form a single constituent; the locative phrase is a non-term (Polinsky 1992), and the whole clause is interpreted as one with an expletive subject.

To conclude, the Subject Inversion construction differs from the respective clause with the preposed subject in the following:

- (20) a. the inverted subject becomes a non-term
b. the inverted subject forms a single constituent with the verb.

In what follows, I will compare the Inversion construction to the actual cases of Subject Incorporation. I will then look at the question: is the inverted nominal totally syntactically inactive?

3. **Subject Inversion and Intransitive Subject Incorporation.** The incorporation of the subject nominal is relatively rare, compared to incorporation of objects. Subjects incorporate, for example, in Caddo (Mithun 1984: 861; 1986: 36), in Southern Tiwa (21b), in Chukchee (22b), and in Alutor (23b, c) (the incorporated element is given in boldface):

- (21) Southern Tiwa (Allen et al. 1990: 336)
a. *'uide ø-wan-ban seuanide-'ay*
child AGR-come-PAST man-to
'The child came to the man.'
b. *seuanide a-'u-wan-ban*
man AGR-child:INC-come-PAST
'The child came to the man.'
- (22) Chukchee
a. *ŋinqeg-ti ql?awəl-etə pəkir-g?e-t*
boy-ABS:PL man-DAT arrive-AOR:3SG-PL
'The boys came to the man.'
b. *ql?awəl ŋinqey-ə-pkir-g?e*
man:ABS boy:INC-arrive-AOR:3SG
'The boys came to the man.'
c. *ql?awəl-etə ŋinqey-ə-pkir-g?e*
man-DAT boy:INC-arrive-AOR:3SG
'To the man came the boys.'

The incorporated subject no longer determines verbal agreement, which is particularly clear from (22b), where the verb is in the singular, agreeing with 'the man'. Overall, the non-term status of the incorporated subject is demonstrated, for Southern Tiwa, in Allen et al. (1990: 357-365); and for Chukchee, in Polinsky and

Nedjalkov (1987) and Polinsky (1990: 356-359). The incorporated nominal and the verb form a single prosodic and morphophonemic unit (cf. for Chukchee, Polinsky and Nedjalkov 1987: 256; Kozinsky et al. 1988: 662).

In Southern Tiwa, the incorporation of the (initial) subject is directly related to another nominal becoming the subject. This nominal is either the goal, as in (21b), or the possessor. Thus, the Subject Incorporation clause in Southern Tiwa must be personal; expletive incorporation clauses are not allowed (see also Allen et al. 1990: 369).

In Chukchee and Alutor, which are closely related, the incorporation of the subject may or may not result in another overt subject. Thus, in Chukchee example (22b), the goal advances to subject; in (22c), the clause has an expletive subject, and the goal remains in the dative. Besides goal nominals, Subject Incorporation clauses in Chukchee and Alutor may have a locative, either advanced to subject or remaining a non-term. The situation with possessor is more interesting: the possessor may ascend to subject or may alternate with a locative phrase with the possessive semantics; it cannot, however, retain possessor marking if the possessed nominal incorporates into the verb (see (23d) below). Compare the following Alutor examples (from Koptjevskaja-Tamm and Muravyova 1993), where the possessor becomes the subject of the clause (23b) and alternates with the locative phrase (23c):

- (23) a. *gəm-nin sejnīk-ø ø-av-ø-i*
 I-POSS teapot-ABS 3SG-be ruptured-AOR-3SG
 'My teapot is broken.'
 b. *gəmmə tə-sejnīk-av-ø-k*
 I:ABS 1SG-teapot-be ruptured-AOR-1SG
 'My teapot is broken.' (possessor ascends to subject)
 c. *gəm-ək ø-sejnīk-av-ø-i*
 I-LOC 3SG-teapot-be ruptured-AOR-3SG
 'My teapot is broken.' (locative phrase with the possessive meaning)
 d. **gəm-nin ø-sejnīk-av-ø-i*
 I-POSS 3SG-teapot-be ruptured-AOR-3SG

I have no examples of languages where only impersonal Subject Incorporation occurs but, evidently, there is nothing wrong with such a possibility.

Just like Subject Inversion, Subject Incorporation typically occurs with unaccusative verbs (Allen et al. 1990); an exception is Chukchee, which allows some unergative verbs, primarily verbs of motion, to incorporate their subjects (Polinsky 1990).

There are significant structural parallels between clauses that undergo Subject Inversion and clauses that undergo Subject Incorporation. Both Subject Inversion and Subject Incorporation are valency-changing phenomena and have a clear syntactic effect on the clause structure, by allowing another nominal to become the subject.

The two major differences between Subject Inversion and Subject

Incorporation are the degree of fusion between the verb and the nominal and the semantics of the second argument in the clause.

From the morphological point of view, there is less fusion between the inverted subject and the verb than between the incorporated subject and the verb. Indeed, under Incorporation, grammatical morphemes do not separate the verb from the subject (the specific linear arrangement depends on the idiosyncratic features of the language, of course). Meanwhile, under Subject Inversion, all grammatical markers, including verb suffixes, precede the inverted subject. This may be an indication of the syntactic nature of Subject Inversion. Incorporation, on the other hand, intersects more with morphology, hence the basic and still debated question as to whether Incorporation belongs in syntax or in morphology. I won't discuss this question here though the data presented below supports the analysis where Incorporation is viewed primarily as a syntactic phenomenon.

A possible way to distinguish between the morphology that is involved in Subject Incorporation and that in Subject Inversion is to follow Baker's distinction between Incorporation proper and Abstract Incorporation or Reanalysis. Under Abstract Incorporation, there is less evidence for overt syntactic movement of the incorporated nominal (Baker 1988).

The second distinction between Subject Inversion and Subject Incorporation is in the semantics of the other argument in the clause. Subject Inversion occurs only against locative phrases or temporal expressions. This expression may be promoted to subject and frequently becomes topic. Subject Incorporation occurs in clauses that contain goal, locative or possessor. Certainly, there is an apparent link between location and goal as well as location and possession, and an analysis can be worked out under which these three arguments would represent a more vague spatio-temporal argument, but the broader argument base of Subject Incorporation is still clear.

I am now going to examine another parallel between Subject Inversion clauses and Subject Incorporation clauses. This parallel has to do with free modifiers in the clause structure, determined by the incorporated head.

4. Syntactic projection of the inverted/incorporated subject. With regard to Noun Incorporation, two views have been expressed on the complex verb that forms under Incorporation. One is that the incorporated element is completely inert and has no projection into clausal syntax (Mithun 1984). The other view is that the incorporated element, though not the head of the compound verb, stays operative and still projects into syntax. It can, for example, have modifiers in phrase structure (Sadock 1986).

The data from Subject Inversion confirms the projection analysis according to which the nominal that forms a single constituent with the verb remains operative, in that it can determine free modifiers in the clause structure. This raises the question, what syntactic analysis can effectively account for the relation between the verb-internal head and its free modifier.

4.1. Modifiers of the Inverted Subject. In Bantu, Kinyarwanda in particular, the inverted subject can take several types of postpositional modifiers, namely: 1) possessive pronouns (24); 2) descriptive adjectives or relative clauses (25); 3)

numerals (26); 4) quantifiers 'many/much', 'few/little', 'several', 'some', 'most' (*'most of'), 'less' (27).

- (24) possessive pronoun
ha-r-firuk-a in+shúti zaa-njye
 2CL16-PROGR-run-IMPf CL10+friend CL10-my
 'My friends are running.' ("There is running by my friends.")
- (25) descriptive relative clause
ha-phi i-nyoni zi-ta-guruk-a
 CL16-PRES-be CL10-bird CL10.REL-NEG-fly-IMPf
 'There are such birds that don't fly.'
- (26) numeral
kw'úsôko ha-phi-guz-w-e ibi-intu bi-taandatu
 in market CL16-PAST-buy-PASS-PERF CL8-thing CL8-six
 'At the market, there were bought six things.'
- (27) quantifier
uyu kukwêezi ha-phi-gu-ye im-vúra ny-iinshi
 this month CL16-PAST-go-PERF CL9-rain CL9-many/much
 'This month, it rained a lot (lit.: ...went rain plenty).'

As the examples show, all of these modifiers agree with the head in class and follow the head; this is the standard order in Kinyarwanda. The same is true for Chichewa.

As for demonstratives, they precede the head in Kinyarwanda and follow the head as enclitics in Chichewa; both languages allow plural demonstratives under Subject Inversion, compare respectively, (28) and (29):

- (28) Kinyarwanda
háritya ha-rá-sek-a bá-rítya b-áana
 there CL16-PROGR-laugh-IMPf CL2-that CL2-child
 'There are those children laughing there.' (lit.: "There there are laughing those children.")
- (29) Chichewa (Bresnan and Kanerva 1989: 2)
ku-mu-dzi ku-na-bwér-á a-lendô-wo
 CL17-CL3-village CL17-PAST-come-IND CL2-visitor-those:CL2
 'To the village came those visitors.'

These examples show that the inverted nominal, though not the head of the compound verb, stays operative and still projects into syntax. In addition, the inverted subject can come into communicative contrast with a free element, as in (30), and can determine the Wh-word *in situ*, as in (31)-(32), which also underscores its similarity with a free NP:

- (30) contrastiveness
kw'iishuûri h-phi-igfishiiriz-a umwáalimu, ntaa babyéyi
 in school CL16-PRES-teach:APP-IMPf teacher not parents
 'At school, teaches the teacher, not parents.'
- Wh-word *in situ*:
- (31) Kinyarwanda
 a. *kw'iishuûri ha-phi-boón-w-e iki?*
 in school CL16-PAST-see-PASS-PERF what
 'At school, what was found there?'
 b. **iki kw'iishuûri ha-phi-boón-w-e?*
 what in school CL16-PAST-see-PASS-PERF
- (32) Chichewa (Bresnan and Kanerva 1989: 36)
 a. *kodi pá-m-chenga p-a-in-a chi-yâni?*
 Q CL16-CL3-beach CL16-PERF-stand-IND CL7-what
 'On the beach is standing what?'
 b. **n'chi-yâni chi-méné pa-m-chenga p-á-im-a ____?*
 COP16-Q CL7-REL CL16-CL3-sand CL16:REL-PERF-stand-IND

This brings forward parallels with the cases where the incorporated nominal also projects into syntax. These cases are briefly summarized below.

4.2. **Syntactic projection of the incorporated nominal.** In some languages, the incorporated nominal is totally syntactically inactive. In several languages, however, the incorporated nominal can have the following phrase structure modifiers: 1) descriptive adjectives or relative clauses (33); 2) numerals (34); 3) weak quantifiers 'many/much', 'few/little', 'several', 'some', 'most' (*'most of'), 'less' (35); 4) demonstratives (36). Thus, the incorporated subject associates with the same set of modifiers as the inverted subject above.⁷

- (33) Greenlandic Eskimo (Sadock 1986: 23)
luutvik-p assut qusanartoq-mik qajaq-lior-paa
 L-ERG very beautiful-INSTR kayak-make.for-INDIC:3SG:3SG
 'Luutvik made a very beautiful kayak.'
- (34) a. Chukchee
atlag-an nireq qaa-gentak-w?e
 father-ABS two reindeer-stray-AOR:3SG
 'Father lost two reindeer (Two reindeer strayed away from the father's herd.)'
 b. Southern Tiwa (Allen et al. 1984: 301)
wisi ibi-musa-tuwi-ban
 two AGR-cat-buy-PAST
 'They bought two cats.'
- (35) Caddo (Mithun 1984: 861)
wayah hák-k'uht-'t-sa'
 QUANTIFIER PROGR-grass-grow-PROGR
 'There was a lot of grass.'

- (36) Southern Tiwa (Allen et al. 1990: 366)
khwianide ø-kan-edeure-ban yede-ba
 dog AGR-horse-kick:PASS-PAST that-INST
 'The dog was kicked by that horse.'

In addition, the incorporated nominal can be contrasted with a free NP (37) and can be replaced by a Wh-word (38).

Chukchee

- (37) *lon-?yelg-amecat-g?e, wanewan ener-ti*
 NEG-moon-hide-AOR:3SG rather star-ABS:PL
 'It's not the moon that hid but the stars.'
 (38) *ney-ək r?en-ə-wərgəre-rkən ?*
 hill-LOC what-EV-make noise-PRES:3SG
 'What is it there making noise on the hill?'

Examples (25)-(38) show that both the inverted and the incorporated subject can be modified by or contrasted with free clausal elements. This indicates that both types of nominals project into the clausal syntax. Thus, while they do not have active syntactic properties, characteristic of terms, they nevertheless behave like independent words and can be contrasted with the latter. Another interesting fact is that the modifiers occurring with the inverted and incorporated nominals are essentially similar. These findings raise two separate questions: first, what is the relationship between the head and the modifier?, and second, what are the possible constraints on modifier type determined by the internal head? The first question is discussed in the following section. As far as the second question, there is no room for it in this paper; for discussion of it, see Polinsky forthcoming.

4.3. Abstract Incorporation and Discontinuous Constituency. In this section, I will briefly review the possibilities of analyzing the relationship between the head and the modifier under Noun Incorporation proper and will then concentrate on the modifier-head relationship under Subject Inversion.

Under Noun Incorporation proper, the relationship between the incorporated nominal and its free modifier allows two alternative analyses. First, the free demonstrative or quantifier may itself function as an NP. In this case, the head-modifier relationship between the incorporated nominal and its free modifier is based only on meaning, not on structure. Though the facts are still too sparse, this may be a valid possibility for Greenlandic Eskimo, where the free demonstrative or numeral must be marked for case, compare (33) above.

The other possible analysis would be one where the incorporated head and the free modifier are syntactically inseparable; they form a discontinuous constituent (McCawley 1982; Dahlstrom 1987), where the elements of the constituent can be separated from each other by other elements.

The obvious way to choose between the two analyses is to test, first, whether the free modifier has any properties of a full NP, and second, if it obeys any constraints that do not apply to other, clearly continuous, clause constituents. For

a language with rich case and agreement such as Chukchee, the absence of case/agreement marking, as in (34), is, in itself, an important indication that the numeral is not a full NP. (If the numeral indeed functioned as a full NP here, it would have some oblique marking because the subject position is already filled by the absolutive NP 'father'.)

Next, if the free modifier is only semantically related to the incorporated head but is syntactically independent of it, this modifier can be expected to undergo movement in and probably out of the clause. Meanwhile, if this modifier is part of the discontinuous constituent, together with the head, it should be bounded by a higher node and should not be able to move to an upstairs, matrix clause: such movement would separate it from the incorporated head which cannot move (cf. Dahlstrom 1987: 60). Unfortunately, there is no conclusive evidence regarding this for any of the Subject Incorporation languages.

Finally, languages with Noun Incorporation also have bound modifiers. A bound modifier incorporates into the head. This is particularly productive in Chukchee, where the incorporation of the adjective or even relative clause into the noun is very common, cf. (39b):

- (39) a. *nilgəqin ?əl?əl təl-g-ə-g?i*
 white:ABS snow:ABS melt-EV-AOR:3SG
 b. *nilgəqa-?əl?əl təl-g-ə-g?i*
 white:INC-snow:ABS melt-EV-AOR:3SG
 'White snow melted.'

The resulting compound noun can then incorporate into the verb, as in (39c):

- (39) c. *nilgəqa-?əl?-ə-lg-ə-g?i*
 white-snow:INC-EV-melt-AOR:3SG
 'White snow melted.'

This process may be described as serial incorporation: first, the modifier incorporates into the head, then the complex nominal incorporates into the verb. Thus, there are three possibilities of modifier-head relationship under Noun Incorporation: the modifier is syntactically free; the modifier forms a discontinuous constituent with the incorporated head, and the modifier incorporates together with the head.

If we now look at the modifier-head relationship under Subject Inversion, the same three possibilities can be outlined: the modifier may be syntactically independent, functioning as a full NP; the modifier may form a discontinuous constituent together with the inverted subject; the modifier may undergo Abstract Incorporation with the head, similar to the serial incorporation in (39c).

In Kinyarwanda, the first possibility (modifier as a full NP) is easily ruled out by the morphology. Any nominal that is not preceded by a modifier takes the augment before the class prefix; the augment is a single vowel, same as in the class prefix. In the examples above, the augment was not separated from the class

prefix: thus, *a-ba-shyiitsi* 'guests' where the first vowel is the augment.⁸ Any segment can be substantivized by adding the augment and the class prefix, compare *-tó* 'small, little' - *a-ba-tó* 'the little ones (Class 2)'; *zítágurúka* 'not flying' - *i-zítágurúka* 'those that don't fly (Class 10)'. In examples (24)-(28) above, none of the modifiers take the augment, which indicates that they don't function as full NPs. Adding the augment on the modifier of the inverted subject is ungrammatical, compare (27) above and (40):

- (40) **uyu kukwézi ha-φ-gu-ye im-vúra i-ny-iĩnshi*
 this month CL16-PAST-go-PERF CL9-rain AUGMENT-CL9-many
 'This month, it rained a lot (lit.: ...went rain plenty).'

The possibility that the inverted subject and the postposed modifier can be absorbed by the verb as a single element and form a constituent with the verb clearly holds in the case of demonstratives, where the morphology is in favor of this analysis. Indeed, the demonstrative either precedes the head, as in Kinyarwanda (28), or is a clitic, as in Chichewa (29). For Kinyarwanda, we have just ruled out the possibility of the modifier, in this case demonstrative, being a free NP. Thus, the only plausible analysis is that the demonstrative and the nominal form a single constituent which then undergoes Abstract Incorporation into the verb. Whatever specific analysis is assumed for the verb-inverted nominal constituent, the adjunction of the modifier precedes the Inversion, and the whole modifier-head NP is inverted.

Finally, the inverted subject, which is the head, may be bound to the verb, and the modifier may remain free (discontinuous constituency). Testing this possibility in Kinyarwanda presents some difficulties, because of the rigid word order and the impossibility of floating modifiers. Positive evidence for discontinuous constituency comes from the intervening lexical material test; the intervening lexical items are sentential and temporal particles.

In a standard sequence of an undoubtedly free head and modifier, these two words cannot be separated by a particle, compare (41b):

- (41) a. *umu-koóbwa wa-awe mu-tó reéró a-φ-ri hé?*
 CL1-girl CL2-thy CL2-little so/well CL1-PRES-be where
 'Well, where is your little girl?'
 b. **umu-koóbwa wa-awe reéró mu-tó a-φ-ri hé?*
 CL1-girl CL2-thy so/well CL2-little CL1-PRES-be where
 'Well, where is your little girl?'

The ungrammaticality of (41b) indicates that the nominal and the adjective form a single NP, and that discontinuity between the head and the modifier is not allowed. Meanwhile, the inverted nominal can be separated from some of its postposed modifiers by a particle; compare (15a-c) above and (42), where the relative clause *biba mu mugi* 'existing/being in the city' can be separated from its

head:⁹

- (42) *ha-φ-ri ibi-tí koko bi-ba mu mugi?*
 CL16-PRES-be CL8-tree indeed CL8-be in city
 'Are there indeed trees in the city?'

Examples such as (42) indicate that the discontinuous constituency relationship between the inverted subject and its modifier is possible.

To summarize, the relation between the head and the modifier under Subject Inversion can be twofold: the modifier and the head can be absorbed by the verb into a single constituent (serial Abstract Incorporation) or the modifier remains free and is then determined by an internal head (Discontinuous Constituency). Discontinuous constituency is impossible for heads modified by possessive pronouns and demonstratives and is possible when the head is modified by a relative clause, adjective, numeral, or quantifier.

Conclusion. In this paper, I have examined a particular case of the Subject Inversion construction in Kinyarwanda. I have shown that Subject Inversion in this language results in a construction with the null expletive subject. The inverted subject in this construction becomes a non-term and forms a single constituent with the verb. This process, which was identified as Abstract Incorporation, is largely similar, both syntactically and semantically, to Intransitive Subject Incorporation. Abstract Incorporation of the inverted subject and Subject Incorporation occur against the same class of predicates: obligatorily intransitive and, cross-linguistically, often unaccusative verbs.

As the inverted subject forms a single constituent with the verb, it can still associate with modifiers, including free modifiers in the clause structure. Similarly, incorporated nominals can have free modifiers in the clause structure. These facts indicate that the incorporated/abstractly incorporated nominal has some projection into clausal syntax. To account for the relationship between the inverted subject as the head and the modifier it determines, two possible analyses were presented: the modifier undergoes Abstract Incorporation together with the head, and the modifier remains free in the clause structure, forming a discontinuous constituent with the VP-internal head.

These findings raise one theoretical question, namely, whether we can adequately account for and distinguish between VP-internal subjects and VP-internal non-terms. Ostensibly, the VP-internal subject, which can be expected to be found under Subject Inversion and Under Subject Incorporation, would keep some subject properties. It has recently been shown that in the split between SPEC of IP and SPEC of VP, the latter retains properties such as extraction and quantifier float but loses binding and control properties. This is exactly what happens with the VP-internal non-term. The best way to examine the possible difference between VP-internal subject and VP-internal non-term would be to find a language which has both.

Notes

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Abbreviations: ABS - Absolutive; AGR - agreement marker; AOR - Aorist; APP - Applicative; CL# - grammatical class; DO - Direct Object; EV - epenthetic vowel; IMPF - Imperfective; INDIC - Indicative; INF - Infinitive; IO - Indirect Object; NEG - Negation; OO - Oblique Object; PASS - Passive; PERF - Perfective; PRES - Present; PROGR - Progressive; Q - Question word; REL - Relative.

1. Hoekstra and Mulder (1990) do include unergatives in their account.
2. For a number of GB accounts, the ergatives present a problem with regard to movement and chain of command, which will not be discussed here.
3. The need to recognize Oblique Object as a distinct class of arguments is demonstrated in (Polinsky and Kozinsky 1992; Polinsky 1993).
4. Why adverbials and particles differ from other word classes in this respect is an interesting question in itself, but I simply don't have room for it here. One explanation might be that sentence adverbials and particles can form a single complex with the verb (Pollock 1989; Travis 1988) and that, in this function, they mark the VP boundary (Diesing 1992: 31 and references there).
5. As will be clear from the examples below, *cyaane* is one of those polysemous adverbs whose exact meaning is determined by the lexical environment; it is, therefore, glossed vaguely as "manner (adverb)".
6. The analysis proposed by Bresnan and Kanerva differs from the above: the authors conclude that the inverted subject in Chichewa is an object but it is not a Direct or Indirect Object; thus, they posit a new kind of object, orthogonal to the existing types. They explain this orthogonality by a distinctive discourse function of the Inversion construction, namely, one that introduces a new entity into discourse (Bresnan and Kanerva 1989: 36). Such orthogonal classification seems implausible for several reasons. First, a single discourse function can correspond to several grammatical relations; in particular, the new entity can also be introduced by a non-inverted intransitive subject (*A man came in*). Next, while subjects and direct and indirect objects seem to be cross-linguistically relevant, it is unclear what role the proposed discourse-generated object may play in universal grammar. If, for instance, this type object appeared to be internal to the grammar of Chichewa, this would complicate the comparison between the Chichewa Subject Inversion construction and Inversion constructions in other languages, despite the apparent similarities otherwise.
7. Since the relevant examples of Subject Incorporation are too sparse, several examples below show Object Incorporation; in (36), the incorporated nominal is the passive agent.
8. The augment is dropped after some conjunctions, compare *ntaa babyeyi* in (30).
9. Though (41) is never the speakers' first choice, the difference is still between (40), which is clearly ungrammatical, and something that is not very good stylistically.

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