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REANALYSE DES TONS DU BAMBARA:
DES TONS DU NOM A L'ORGANISATION GENERALE DU SYSTEME

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A partir de l'étude des noms, il est apparu progressivement (1) que le bambara, comme le mende, possédait des schèmes tonals de mot; (2) qu'à ces schèmes s'ajoutait un ton haut flottant, que nous avons appelé "ton haut de liaison"; (3) que l'association des tons pouvait être posée en bambara comme fondamentalement postlexicale. Considérant ensuite d'autres constituants et le comportement du "ton haut de liaison" à diverses frontières, nous avons précisé le rôle de ce ton haut qui participe de la nature de l'accent. Cet article présente donc une conception nouvelle de l'organisation d'ensemble du système tonal bambara.

0. Introduction

Cet article[1] porte essentiellement sur l'analyse des noms, point de départ pour comprendre l'organisation tonale du bambara dans son ensemble. Nous décomposerons progressivement les tons en présence dans les noms monosyllabiques, disyllabiques, trisyllabiques et quadrisyllabiques et préciserons la nature et le rôle de chacun d'eux.

On se rendra compte que le bambara comme le mende a des tons ou des schèmes tonals lexicaux et on comprendra mieux la valeur d'un certain ton haut rapprochable d'un accent. Etudiant l'association des tons aux syllabes, on dégagera par ailleurs des principes d'association inédits ou peu attestés opérant

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[1]Cet article correspond à une version développée d'une communication présentée au colloque de phonologie plurilinéaire de Lyon en juin 1985 et devait figurer dans les Actes de ce colloque, qui, en fait, n'ont pu voir le jour.

fondamentalement à une strate postlexicale, au niveau de la formation de l'énoncé. Chemin faisant, c'est donc une réflexion sur la structuration d'ensemble du système tonal bambara qui sera menée.

A des fins de comparaison, et pour situer notre étude par rapport à une analyse tonale bien connue d'une langue de la famille mandé, nous commencerons par présenter les schèmes tonals lexicaux du mende et leurs principes d'association, tels que les décrit Leben [1978], entre autres.

1. Les Schèmes Tonals Lexicaux et Leur Association aux Syllabes d'un Nom en Mende [Leben 1978]

L'exemple du mende a été maintes fois cité. Dans cette langue, les lexèmes nominaux ont deux composantes: un schème tonal lexical et une suite syllabique. Les deux composantes sont associées l'une à l'autre au niveau lexical. Le tableau suivant illustre la combinatoire engendrant une très grande partie du vocabulaire (90% du "vocabulaire de base"):

schème tonal	nombre de syllabes du nom					
	nom d'une syllabe		nom de deux syllabes		nom de trois syllabes	
H	kɔ́	'guerre'	pélé	'maison'	háwámá	'taille'
B	kpà	'dette'	bèlè	'pantalon'	kpàkàlì	'chaise à trois pieds'
HB	mbû	'chouette'	ngílà	'chien'	félàmà	'jonction'
BH	mbǎ	'riz'	fàndé	'coton'	ndàvúlá	'fronde'
BHB	mbàˆ	'compagnon'	nyàhâ	'femme'	nìkílì	'arachide'

L'association entre tons et syllabes est d'abord biunivoque et se fait à raison d'un ton par syllabe du début à la fin du mot. Ensuite,

-   s'il y a des tons excédentaires, ceux-ci sont réunis sur la dernière syllabe, d'où la formation de modulations:

```
nyaha        →     nyaha        →     nyaha
                    | |                 | |\
BHB                B H B              B H B
                   association        association de la
                   biunivoque         syllabe restée libre
                                      avec le dernier ton
```
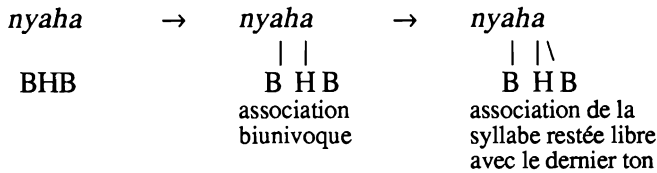
- s'il y a des syllabes en excédent, celles-ci sont associées au dernier ton du schème tonal:

```
ndavula      →     ndavula      →     ndavula
                    | |                 | |/
BH                 B H                B H
                   association        association de la
                   biunivoque         syllabe restée libre
                                      avec le dernier ton
```
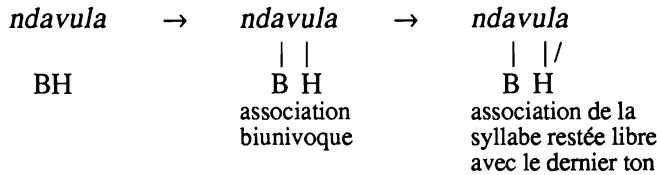
L'association du schème tonal peut se faire également au niveau du syntagme. Ainsi, le syntagme Nom + *ma*, où *ma* est une particule atonale signifiant 'sur', fonctionne comme une seule unité du point de vue de l'association tonale. Le schème tonal du nom s'associe à l'ensemble des syllabes de ce syntagme prises globalement:

nom isolé	nom + *ma*
kɔ́	kɔ́má
mbû	mbúmà
mbǎ	mbàmá
pélé	pélémá
bèlè	bèlèmà
ngílà	ngílàmà
nyàhâ	nyàhámà

Le syntagme *nyàhámà*, par exemple, est dérivé de la façon suivante:

```
/nyaha - ma/     →     nyahama
                        | | |
   B H B                B H B
```
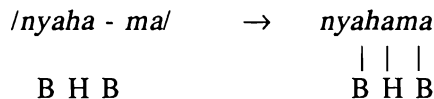
Cependant, si l'association des tons peut se faire au niveau du mot ou du syntagme, elle paraît se faire entièrement *avant* la concaténation de ces mots ou de ces syntagmes pour former une phrase ou un énoncé; or, c'est la situation contraire que nous trouverons en bambara.

2. Les Tons des Noms en Bambara[2] et leurs Principes d'Association

A la différence des noms en mende, les noms en bambara ne comportent pas seulement des tons lexicaux mais incluent d'autres tons, en particulier un "ton haut de liaison" dont les caractéristiques seront précisées en §3.

Nous dégagerons les tons des monosyllabes, des disyllabes, ensuite des trisyllabes et des quadrisyllabes, puis nous examinerons leurs principes d'association, ce qui nous permettra de montrer le mode respectif d'association des tons flottants et des tons lexicaux dans cette langue mandé.

2.1. Tons des monosyllabes et disyllabes nominaux en bambara.
Les noms sont cités au défini en bambara. Les noms suivants illustrent les divers schèmes tonals possibles des noms monosyllabiques et disyllabiques dans leur forme de citation:[3]

(1)	*bâ*	'le fleuve'
(2)	*bǎ*	'chèvre'
(3)	*bálâ*	'le balafon'[4]
(4)	*bàlâ*	'le porc-épic'
(5)	*mùsô*	'la femme' (de même schème que 4)

La plupart des auteurs—Welmers [1949], Bird [1966], Creissels [1978, 1981]—s'accordent pour poser le ton bas final comme marque du défini, position que nous adopterons également.

Par contre, la détermination du schème tonal lexical n'a pas donné lieu au même consensus, le statut du ton haut préfinal ayant fait l'objet de controverses. Selon l'hypothèse la plus ancienne, émise à propos du maninka [Welmers 1949], reprise ultérieurement pour le bambara par de nombreux auteurs [Bird 1966, Diarra 1976, Creissels 1978], le ton haut préfinal est dû à une "règle de dissimilation" qui évite la rencontre de deux tons hauts à certaines frontières (dans les exemples précédents, entre le ton bas du lexème et le ton bas du défini). Cette règle est ainsi formulée par Bird et al. [1977:9]:

> "A low tone which is followed by another low tone word will rise in pitch. We can say that the last part of a low tone word becomes a high tone when that low tone word is followed by another low tone word. In a word of one syllable, the tone will be rising. In a word of two or more syllables, the last syllable will become high."

Pour ces auteurs, cette réalisation montante ou haute n'est pas phonologique. Ainsi *mùsô* 'la femme' est-il pour Bird la réalisation de *mùsò-`* et *bǎ* 'la chèvre' la réalisation de *bà-`*.

Au vu de ces cinq exemples, cette règle, quoique surprenante comme n'ont pas manqué de le noter certains auteurs (Courtenay [1974], entre autres) paraît acceptable. On ne verra les difficultés qu'elle pose que lorsque d'autres données auront été introduites.

Le ton haut préfinal a aussi été considéré comme un ton phonologique et posé alors comme dernier ton du lexème [Leben 1973, Courtenay 1974, Creissels 1981, Longchamp et Coulibaly 1983, A. Sangare[5] 1984]. Dans cette perspective, *mùsô* 'la femme' a été décomposé en *mùsó-`* et *bǎ* 'la chèvre' en *bǎ-`*. On remarquera alors que les schèmes lexicaux—soit pour nos exemples *bá*, *bǎ*, *bálá* et *mùsó*—ont en commun une propriété peu banale qui est de se terminer par un ton haut.

L'analyse que nous proposerons, tout en ouvrant une troisième voie, prendra pour point de départ ces deux groupes d'analyse. En effet, nous partagerons avec le deuxième groupe d'auteurs le sentiment que le ton haut est phonologique et qu'il n'est pas introduit par une règle de dissimilation. En revanche, comme le premier groupe d'auteurs, nous pensons que ce ton n'appartient pas au schème lexical et, en conséquence, que tous les schèmes lexicaux ne se terminent pas par un ton haut.

L'établissement de la nature de ce ton haut omniprésent se fera progressivement et il faudra examiner non seulement les comportements tonals des noms mais aussi ceux des verbes et ceux d'autres morphèmes. Il sera posé comme un ton flottant

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[5]La thèse d'Aby Sangaré porte sur le dioula de Kong mais nous pouvons nous y référer vu la très proche parenté du dioula avec le bambara. En effet, le bambara, le malinké et le dioula constituent ce qui a été appelé la "langue mandingue".

ajouté au schème lexical: on verra comment, tout en jouant un rôle de liaison (d'où la dénomination de "ton haut de liaison"), il participe de la nature de l'accent.

Dans cette perspective, la décomposition de *bǎ* sera *bà-´-`* avec le lexème *bà* de ton lexical bas et deux tons flottants: le ton haut de liaison et le ton bas flottant, marque du défini.

Pour mener l'analyse, nous allons maintenant introduire à côté des formes de défini des formes dites d'indéfini, et placer les unes et les autres devant les particules *dòn*, présentatif affirmatif 'c'est', et *té*, présentatif négatif 'ce n'est pas'.

		avec *dòn*	**avec *té***	
(6)	indéf.	a. *bá dôn*	b. *bá té*	'c'est/ce n'est pas un fleuve'
	déf.	c. *bá dòn*	d. *bá 'té*	'c'est/ce n'est pas le fleuve'
(7)	indéf.	a. *bà dôn*	b. *bà té*	'c'est/ce n'est pas une chèvre'
	déf.	c. *bǎ dòn*	d. *bǎ 'té*	'c'est/ce n'est pas la chèvre'
(8)	indéf.	a. *bálá dôn*	b. *bálá té*	'c'est/ce n'est pas un balafon'
	déf.	c. *bálá dòn*	d. *bálá 'té*	'c'est/ce n'est pas le balafon'
(9)	indéf.	a. *bàlà dôn*	b. *bàlà té*	'c'est/ce n'est pas un porc-épic'
	déf.	c. *bàlá dòn*	d. *bàlá 'té*	'c'est/ce n'est pas le porc-épic'
(10)	indéf.	a. *mùsò dôn*	b. *mùsò té*	'c'est/ce n'est pas une femme'
	déf.	c. *mùsó dòn*	d. *mùsó 'té*	'c'est/ce n'est pas la femme'

Au premier regard, on remarque des modifications affectant les deux particules-cadre *dòn* et *té*: la première porte parfois un ton bas, parfois un ton modulé descendant (*dòn/dôn*) tandis que la seconde est affectée ou non du downstep (*té* ou *'té*). De même, les tons portés par le nom lui-même se modifient.

Un premier point est aisé à traiter: la réalisation dans ce contexte du ton bas, marque du défini. Dans les mots isolés, le ton bas était réalisé sur la dernière syllabe et engendrait une modulation (1 à 5). En contexte, ce même ton n'est plus réalisé sur la syllabe finale du nom mais crée le downstep lorsque le mot suivant est de ton haut ou reste sans manifestation lorsque le mot suivant est de ton bas. Le ton bas du défini reste donc inassocié, ce qu'on peut ainsi figurer:

$$\begin{bmatrix} muso & t\varepsilon \\ | \ | & | \\ B \ H \ \circledB & H \end{bmatrix} \text{(10d)}$$

$$\begin{bmatrix} muso & don \\ | \ | & | \\ B \ H \ \circledB & B \end{bmatrix} \text{(10c)}$$

(où le cercle note conventionnellement le caractère non associé du ton).

Certains auteurs, e.g. Courtenay [1974], se sont arrêtés à ce stade d'analyse et ont pris pour forme de base des noms la forme du défini privée du ton bas. De fait, pour abstraire les formes de base, il faut aussi considérer les formes de l'indéfini, qui sont formées sans le ton bas, marque du défini, et les observer dans divers contextes. Commençons par examiner les formes d'indéfini avec la particule de ton bas *dòn*, qui figurent dans la liste précédente.

Le ton haut des exemples (7a, 9a, 10a), où le nom comporte un ton bas, a été expliqué par la règle de dissimilation. Selon les auteurs qui ont usé de cette règle, *mùsò dôn* serait la réalisation de *mùsò* + *dòn*, le ton haut porté par *don* évitant la rencontre de deux tons bas à cette frontière. Cependant, cette même règle ne permet pas d'expliquer le ton haut, pourtant similaire, porté par *don* dans les exemples (6a) et (8a) où le nom est à ton haut. Par ailleurs, les auteurs qui ont posé un ton haut sur la dernière syllabe des noms, doivent rendre compte des cas où ce ton n'est plus sur cette syllabe.

Lorsque ce ton haut est totalement absent comme dans tous les exemples avec la particule *té*, des règles diverses, plus ou moins formalisées, ont été avancées: "abaissement" [Longchamp et Coulibaly 1983], "destruction" [A. Sangaré 1984], "shifting rule" formulée ainsi par Courtenay [1974]:

$$H \rightarrow B \ / \ B \ \underline{\quad} \ \begin{Bmatrix} H \\ \# \end{Bmatrix}$$

Ces règles pourraient être acceptables. On notera cependant que leur forme même résulte de l'idée que le ton haut est attaché à la dernière syllabe et qu'il faut donc le remplacer dans certains contextes par un ton bas.

En revanche, lorsque ce même ton haut ne disparaît pas mais se reporte sur la syllabe suivante, en l'occurrence la syllabe *don*, il ne peut être question d'un remplacement par un ton bas. Et, souvent, le cas n'a pas été vu [Courtenay 1974], ce qui n'est sans doute pas fortuit, ou il a donné lieu à des interprétations par des règles variées telles que: règle de dissimilation [Longchamp et Coulibaly 1983], règle de

réalisation descendante d'un ton haut après un ton bas suivie d'une règle d'effacement du ton haut [A. Sangaré 1984].

En fait, tous ces auteurs partagent un même postulat: le schème tonal qu'ils posent comme terminé par un ton haut est entièrement associé lexicalement. Cela est explicite chez Courtenay [1974] pour qui les tons du bambara sont segmentaux mais aussi chez Leben [1973] qui, après avoir reconnu des schèmes de mot, procède à leur association au niveau lexical. Ce postulat a empêché de concevoir que le ton haut, tantôt porté par la syllabe finale de lexème (*muso*), tantôt par la syllabe de ton bas suivante (*dòn*) pouvait être un seul et même ton.

Venons en maintenant à notre propre analyse. Nous proposerons, comme dans les définis vus précédemment, de poser le même "ton haut de liaison" dont la présence se justifie par la nécessité d'enchaîner le lexème avec la particule qui le suit. Ce ton haut n'est d'ailleurs absent que devant une frontière forte (cf. §3.2). Ce ton haut flottant s'associe à droite sur la particule *dòn* et le ton lexical s'associe aux syllabes du nom. Ainsi, pour les exemples (6a, 7a, 8a, 9a, 10a) l'association des tons procède-t-elle de la façon suivante:

$$
\left[\left[\begin{array}{c} ba \\ H \end{array}\right]H\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} ba & don \\ \mid & \diagup\!\!\diagdown \\ H & H\ \ B \end{array}\right] \quad (6a)
$$

$$
\left[\left[\begin{array}{c} ba \\ B \end{array}\right]H\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} ba & don \\ \mid & \diagup\!\!\diagdown \\ B & H\ \ B \end{array}\right] \quad (7a)
$$

$$
\left[\left[\begin{array}{c} bala \\ H \end{array}\right]H\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} bala & don \\ \vee & \diagup\!\!\diagdown \\ H & H\ \ B \end{array}\right] \quad (8a)
$$

$$
\left[\left[\begin{array}{c} bala \\ B \end{array}\right]H\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} bala & don \\ \vee & \diagup\!\!\diagdown \\ B & H\ \ B \end{array}\right] \quad (9a)
$$

$$
\left[\left[\begin{array}{c} muso \\ B \end{array}\right]H\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} muso & don \\ \vee & \diagup\!\!\diagdown \\ B & H\ \ B \end{array}\right] \quad (10a)
$$

Nous pourrons montrer plus loin, lors de notre étude des trisyllabes et quadrisyllabes que l'association des tons flottants se fait prioritairement avant celle des tons lexicaux, en l'occurrence du ton lexical. Dans le cas de ces monosyllabes et disyllabes, le ton lexical pourrait être associé avant le ton haut flottant, les deux ordres d'association restant ouverts.

On aura pu noter que l'association régulière du ton haut de liaison avec *don* permet d'expliquer l'occurrence de la modulation après tous les noms "indéfinis",

qu'ils soient de ton haut ou de ton bas. D'autre part, en dissociant le ton lexical du ton haut de liaison, nous pourrons poser un seul ton, soit un ton haut soit un ton bas comme ton lexical, ce qui est plus satisfaisant qu'un schème toujours terminé par un ton haut.

On considèrera maintenant ces mêmes indéfinis (6b, 7b, 8b, 9b, 10b) devant la particule *té*. Les tons portés par les syllabes du lexème sont les mêmes qu'avec la particule *dòn*: ils résultent comme précédemment de l'association du ton lexical avec les syllabes du lexéme. Le *té* présente son ton haut et aucun autre ton ne se manifeste. A cette absence deux explications peuvent être fournies: soit le ton haut de liaison s'associe avec la syllabe *té* comme il s'associait avec la syllable *dòn*, soit il tombe devant un ton lexical haut. Les données présentées jusqu'ici laissent ouvertes les deux possibilités; cependant, des données que nous verrons ultérieurement (§3.3) nous ferons pencher vers la deuxième solution.

Reprenons maintenant les définis pour compléter les principes d'association des tons flottants. Nous avons vu que le ton bas, marque du défini, restait inassocié; le ton haut de liaison s'associe, lui, à la dernière syllabe, ne laissant au ton lexical qu'une seule syllabe lorsqu'il s'agit d'un disyllabe, et créant une modulation lorsqu'il s'agit d'un monosyllabe. Le ton bas flottant empêche l'association du ton haut à la syllabe suivante, en l'occurrence *don*.

$$
\left[\left[\left[\begin{array}{c} ba \\ H \end{array}\right]_H\right]_B\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} ba & don \\ H\ H\ ⓑ & B \end{array}\right] \quad (6c)
$$

$$
\left[\left[\left[\begin{array}{c} ba \\ B \end{array}\right]_H\right]_B\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} ba & don \\ B\ H\ ⓑ & B \end{array}\right] \quad (7c)
$$

$$
\left[\left[\left[\begin{array}{c} bala \\ H \end{array}\right]_H\right]_B\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} bala & don \\ H\ H\ ⓑ & B \end{array}\right] \quad (8c)
$$

$$
\left[\left[\left[\begin{array}{c} bala \\ B \end{array}\right]_H\right]_B\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} bala & don \\ B\ H\ ⓑ & B \end{array}\right] \quad (9c)
$$

$$
\left[\left[\left[\begin{array}{c} muso \\ B \end{array}\right]_H\right]_B\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} muso & don \\ B\ H\ ⓑ & B \end{array}\right] \quad (10c)
$$

On notera ici que si le ton lexical avait été associé lexicalement préalablement à l'association du ton haut de liaison, il aurait fallu dans le cas des disyllabes (8c, 9c, 10c) le désassocier de la dernière syllabe pour faire place au ton haut de liaison. Ces

exemples apportent donc un début de confirmation à la thèse de la non-association des tons au niveau lexical.

    Les mêmes processus peuvent être observés dans d'autres constructions, en particulier la construction Sujet-Prédicatif-Objet-Verbe selon l'ordre usuel de ces termes en bambara.

	indéf	déf
(11) a.	*à bέ bàlà jírà*	b. *à bέ bàlá jírà*
	'il montre un porc-épic'	'il montre le porc-épic'
(12) a.	*à bέ kàbà jélèmà*	b. *à bέ kàbá jèlèmà*
	'il retourne du maïs'	'il retourne le maïs'

Dans ces exemples, l'association des tons s'effectue de la façon suivante:

$$\begin{bmatrix} a \\ B \end{bmatrix} + \begin{bmatrix} b\varepsilon \\ H \end{bmatrix} + \left[\left[\begin{bmatrix} bala \\ B \end{bmatrix}\right]_H\right] + \left[\left[\begin{bmatrix} jira \\ B \end{bmatrix}\right]_H\right] \rightarrow \begin{bmatrix} a\ b\varepsilon\ bala\qquad jira \\ B\ H\ B\quad\ \ \ H\quad B \end{bmatrix} \quad (11a)$$

$$\begin{bmatrix} a \\ B \end{bmatrix} + \begin{bmatrix} b\varepsilon \\ H \end{bmatrix} + \left[\left[\begin{bmatrix} bala \\ B \end{bmatrix}\right]_H\right]_B + \left[\left[\begin{bmatrix} jira \\ B \end{bmatrix}\right]_H\right] \rightarrow \begin{bmatrix} a\ b\varepsilon\ bala\qquad jira \\ B\ H\ B\ \ H\ \textcircled{B}\ B \end{bmatrix} \quad (11b)$$

$$\begin{bmatrix} a \\ B \end{bmatrix} + \begin{bmatrix} b\varepsilon \\ H \end{bmatrix} + \left[\left[\begin{bmatrix} kaba \\ B \end{bmatrix}\right]_H\right] + \left[\left[\begin{bmatrix} j\varepsilon l\varepsilon ma \\ B \end{bmatrix}\right]_H\right] \rightarrow \begin{bmatrix} a\ b\varepsilon\ kaba\qquad j\varepsilon l\varepsilon ma \\ B\ H\ B\quad\ \ H\quad\quad B \end{bmatrix} \quad (12a)$$

$$\begin{bmatrix} a \\ B \end{bmatrix} + \begin{bmatrix} b\varepsilon \\ H \end{bmatrix} + \left[\left[\begin{bmatrix} kaba \\ B \end{bmatrix}\right]_H\right]_B + \left[\left[\begin{bmatrix} j\varepsilon l\varepsilon ma \\ B \end{bmatrix}\right]_H\right] \rightarrow \begin{bmatrix} a\ b\varepsilon\ kaba\qquad j\varepsilon l\varepsilon ma \\ B\ H\ B\ \ H\ \textcircled{B}\ B \end{bmatrix} \quad (12b)$$

    Les modes d'association des tons flottants nominaux sont les mêmes que précédemment dans les exemples (6 à 10). En outre, on aura remarqué que le ton bas lexical du verbe a été traité comme celui des noms: il n'a pas été associé lexicalement, ce qui a évité, à nouveau, des désassociations pour laisser la place au ton haut de liaison (11a, 12a). Notons que ces faits viennent à l'appui de la non-association d'un ton lexical à la première syllabe, susceptible elle aussi de recevoir le ton haut de liaison et ils seront rejoints, plus loin, par d'autres faits (voir §3.3). Quant à la chute du ton flottant en finale de phrase, elle sera traitée en §3.2.

    Nous n'avons pas envisagé d'exemples avec un verbe de ton haut, mais on trouverait alors les mêmes règles qu'avec la particule *té*.

2.2. Schèmes tonals des trisyllabes et quadrisyllabes nominaux. L'étude des schèmes tonals des trisyllabes et quadrisyllabes nominaux nous permettra de mettre en évidence la priorité d'association des tons flottants par rapport aux tons lexicaux et de montrer comment des schèmes tonals peuvent se resserrer ou s'étirer en fonction du nombre de syllabes disponibles.

2.2.1. Schèmes tonals des trisyllabes. Les exemples suivants illustrent les divers schèmes possibles des trisyllabes au dèfini et à l'indéfini devant les particules *dòn* et *té*:

(13) indéf. a. *gàlàmà dôn*   b. *gàlàmà té*   'c'est/ce n'est pas une louche'
    déf. c. *gàlàmá dòn*   d. *gàlàmá 'té*   'c'est/ce n'est pas la louche'

(14) indéf. a. *súngúrún dôn*   b. *súngúrún té*   'c'est/ce n'est pas une jeune fille'
    déf. c. *súngúrún dòn*   d. *súngúrún 'té*   'c'est/ce n'est pas la jeune fille'

(15) indéf. a. *mángòrò dôn*   b. *mángòrò té*   'c'est/ce n'est pas une mangue'
    a'. *mángórò dôn*   b'. *mángórò té*   'c'est/ce n'est pas une mangue'
    a". *mángóró dôn*   b". *mángóró té*   'c'est/ce n'est pas une mangue'
    déf. c. *mángòró dòn*   d. *mángòró 'té*   'c'est/ce n'est pas la mangue'
    c". *mángóró dòn*   d". *mángóró 'té*   'c'est/ce n'est pas la mangue'

(16) indéf. a. *bànfúlá dôn*   b. *bànfúlá té*   'c'est/ce n'est pas un chapeau'
    a'. *bànfùlá dôn*   b'. *bànfùlá té*   'c'est/ce n'est pas un chapeau'
    a". *bànfùlà dôn*   b". *bànfùlà té*   'c'est/ce n'est pas un chapeau'
    déf. c. *bànfúlá dòn*   d. *bànfúlá 'té*   'c'est/ce n'est pas le chapeau'
    c". *bànfùlá dòn*   d". *bànfùlá 'té*   'c'est/ce n'est pas le chapeau'

(17) indéf. a. *sàkénè dôn*   b. *sàkénè té*   'c'est/ce n'est pas un *sakɛnɛ* (= sorte de lézard)'
    déf. c. *sǎkèné dòn*   d. *sǎkèné 'té*   'c'est/ce n'est pas le *sakɛnɛ*'

On notera d'abord que le nombre des schèmes est limité et que, d'autre part, entre les formes à l'indéfini et au défini, les transformations tonales ne touchent pas seulement la dernière syllabe du nom mais peuvent remonter jusqu'à sa première syllabe, e.g. *sǎkèné/sàkénè*.

Les schèmes seront considérés les uns après les autres. Les exemples (13) correspondent à des noms formés sur le lexème *galama* de ton bas. De la même façon qu'en mende, un ton bas unique, au niveau lexical, peut être posé à savoir:

$$
\begin{bmatrix} galama \\ B \end{bmatrix}
$$
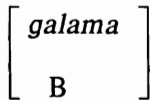
Ce ton bas pourrait être associé lexicalement aux syllabes *ga-la-ma* de la façon suivante:

$$
\begin{bmatrix} galama \\ B \end{bmatrix}
$$

Mais au défini (13c, 13d) il faudrait désassocier le ton bas lexical de la dernière syllabe pour laisser la place au ton haut de liaison: il paraît plus simple encore une fois de l'associer après association de ce ton haut. Ainsi, pour l'exemple (13a), les deux étapes d'association suivantes peuvent être prévues...

1. Association du ton haut de liaison

$$
\begin{bmatrix} \begin{bmatrix} galama \\ B \end{bmatrix}_H \end{bmatrix} + \begin{bmatrix} don \\ B \end{bmatrix} \rightarrow \begin{bmatrix} galama \\ B \end{bmatrix}_H \begin{bmatrix} don \\ B \end{bmatrix}
$$
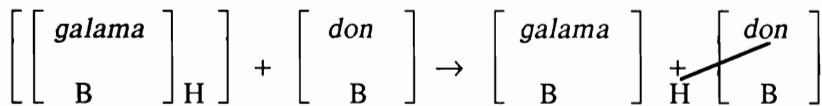
2. Association des tons lexicaux (celui de *galama* et celui de *don*)

$$
\begin{bmatrix} galama \\ B \end{bmatrix}_H \begin{bmatrix} don \\ B \end{bmatrix} \rightarrow \begin{bmatrix} galama \\ B \end{bmatrix} \quad \begin{matrix} don \\ H \quad B \end{matrix}
$$
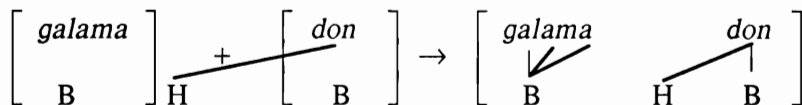
Cependant, les arguments déterminants pour préférer cet ordre d'association viendront plus loin lors de l'examen des noms formés sur les schèmes HB, BH et BHB.

Les noms des exemples (14) sont formés sur un lexème de ton haut, à savoir *súngúrún* et les principes d'association sont les mêmes que ceux vus précédemment pour les disyllabes.

Considérons maintenant les exemples (15) en commençant par les indéfinis. Ceux-ci présentent trois variantes mais qui ne sont pas équivalentes. Les deux

premières forment en fait un doublet alors que la troisième est plus éloignée. Les variantes (a) et (a'), (b) et (b') correspondent à deux modes d'association du schème HB aux trois syllabes du nom, le ton haut de liaison s'étant reporté sur la syllabe *don* (ou étant tombé devant la particule *té* comme dans les exemples précédents), engendrant les exemples (15a) et (15a'). Ces deux modes d'association peuvent être ainsi figurés:

$$\left[\left[\begin{array}{c} mangoro \\ \\ HB \end{array}\right] H\right] + \left[\begin{array}{c} don \\ \\ B \end{array}\right] \rightarrow \left[\begin{array}{ccc} mangoro & & don \\ | & \diagdown & \diagup \\ H & B & H\ B \end{array}\right] \text{(15a)}$$

$$\left[\left[\begin{array}{c} mangoro \\ \\ HB \end{array}\right] H\right] + \left[\begin{array}{c} don \\ \\ B \end{array}\right] \rightarrow \left[\begin{array}{ccc} mangoro & & don \\ \diagup & | & \diagup \\ H & B & H\ B \end{array}\right] \text{(15a')}$$

En (15a), le ton bas du schème HB s'associe à deux syllabes alors qu'en (15a'), il ne s'associe plus qu'à une syllabe et inversément pour le ton haut. Cela laisse penser qu'il n'y a pas d'association directionnelle syllabe par syllabe comme nous en avons vu en mende, mais une association "par les extrémités", le premier ton s'associant sur la première syllabe, le deuxième sur la dernière syllabe, et la syllabe intermédiaire recevant une extension soit du ton haut soit du ton bas. Nous verrons plus loin, à propos des exemples (16) que l'autre schème bitonal du système, à savoir le schème BH a également une double possibilité d'association.

La variante (16a") est, elle, formée sur un schème tonal lexical différent, uniformément haut. Les auteurs parlent parfois de schème "irrégulier". En fait, ce schème haut n'est pas sans rapport avec le schème HB des variantes précédentes. Le premier ton du schème, à savoir le ton haut, s'est imposé au détriment des autres tons. Cette primauté n'est pas en fait isolée mais est à mettre en rapport avec d'autres faits (cf. §2.3). Nous verrons que l'autre schème bitonal, le schème BH, peut connaître cette même réduction.

Les définis s'expliquent également à partir de ces deux schèmes. Dans l'exemple (15c), le schème HB est *resserré* sur les deux premières syllabes, la dernière étant occupée par le "ton haut de liaison". L'association des tons dans cet exemple se fait de la façon suivante:

$$\left[\left[\left[\begin{array}{c} mangoro \\ \\ HB \end{array}\right] H\right] B\right] + \left[\begin{array}{c} don \\ \\ B \end{array}\right] \rightarrow \left[\begin{array}{ccc} mangoro & & don \\ | \quad | & \diagdown & | \\ H \quad B & H\,Ⓑ & B \end{array}\right] \text{(15c)}$$

Le resserrement du schème HB sur deux syllabes présuppose encore une fois que le schème lexical HB n'est pas associé préalablement au ton haut de liaison.

Les exemples (16) sont parallèles aux exemples (15) mais avec des schèmes lexicaux inverses, à savoir BH et B au lieu de HB et H. Dans les formes d'indéfini, nous retrouvons les mêmes variations d'association du schème bitonal:

$$\left[\left[\begin{array}{c} banfula \\ BH \end{array}\right]H\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} banfula & don \\ B & H\ H\ B \end{array}\right] \quad (16a)$$

$$\left[\left[\begin{array}{c} banfula \\ BH \end{array}\right]H\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} banfula & don \\ B & H\ H\ B \end{array}\right] \quad (16a')$$

Le ton haut de liaison est toujours associé à *don*. Les deux tons du schème tonal lexical sont associés aux syllabes extrêmes du nom, la syllabe centrale recevant l'un ou l'autre ton.

Les exemples (16a") et (16b") sont, quant à eux, formés sur un schème entièrement bas. Comme précédemment, le schème alternant est formé du premier ton du schème à l'exclusion du second. Le ton initial bas impose ici sa primauté. Les exemples (16c, c", d, d") peuvent recevoir une explication parallèle à celle des exemples (15) correspondants.

L'effet d'"accordéon" est sans doute le plus clairement illustré par les exemples (17) formés sur un schème BHB. Dans les indéfinis (17a, b), le schème tonal lexical s'étend sur les trois syllabes du nom, celles-ci restant libres du fait de l'association du ton haut de liaison à la particule *dòn* ou de sa chute devant la particule *té*. Ainsi, l'association procède-t-elle de la façon suivante dans l'exemple (17a):

$$\left[\left[\begin{array}{c} saleme \\ BHB \end{array}\right]H\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{cc} sakene & don \\ B\ H\ B & H\ B \end{array}\right] \quad (17a)$$

Dans cet exemple, chaque ton du schème tonal dispose d'une syllabe. Dans les définis (17c, d), par contre, le schème lexical ne se trouve associé qu'aux deux premières syllabes du nom, la dernière syllabe étant occupée par le ton haut de liaison. L'association se fait en deux étapes, comme suit:

1. Association des tons flottants

$$\left[\left[\left[\begin{array}{c} saleme \\ BHB \end{array}\right]H\right]B\right] + \left[\begin{array}{c} don \\ B \end{array}\right] \rightarrow \left[\begin{array}{c} sakene \\ BHB \end{array}\right]_{H\textcircled{B}} + \left[\begin{array}{c} don \\ B \end{array}\right] \quad (17c)$$

Le ton bas du défini ne s'associe pas et reste flottant tandis que le ton haut de liaison s'associe à la dernière syllabe du nom.

2. Association des tons lexicaux (ceux de *sakɛnɛ* et celui de *don*)

$$
\begin{bmatrix} salɛmɛ \\ BHB \end{bmatrix}\!H\,\textcircled{B} + \begin{bmatrix} don \\ B \end{bmatrix} \rightarrow \begin{bmatrix} sakɛnɛ \qquad don \\ BHB \quad H\,\textcircled{B}\quad B \end{bmatrix} \text{(17c)}
$$

Les trois tons BHB se resserrent sur les deux premières syllabes. Si nous avions ici associé les tons lexicalement, soit *sakɛnɛ*,

$$
\begin{array}{ccc} | & | & | \\ B & H & B \end{array}
$$

il aurait fallu, dans la forme définie, désassocier non seulement un ton mais tous les tons pour les repousser vers la gauche. Ce déplacement général est une manifestation particulièrement claire de la non-association des tons au niveau lexical. Par contre, si les tons lexicaux ne s'associent qu'après les tons flottants, *ils ne peuvent sortir du cadre du lexème dont ils sont une composante*.

Nous pouvons d'autre part remarquer que les schèmes tonals des trisyllabes bambara, à savoir H, B, HB, BH et BHB, sont identiques à ceux posés par Leben pour le mende. Ils peuvent même rendre compte en bambara d'une partie encore plus grande des trisyllabes qu'en mende, en fait de leur totalité.[6]

2.2.2. Schèmes tonals des quadrisyllabes. Les quadrisyllabes ont en fait les mêmes schèmes que les trisyllabes; les divers schèmes peuvent être illustrés par les exemples suivants où les noms sont toujours placés devant les particules *dòn* et *té*.

SCHEME BAS

(18) indéf. a. *bùgùnì nkà dôn*   b. *bùgùnì nkà té*   'c'est/ce n'est pas un fouet'
    déf. c. *bùgùnì nká dôn*   d. *bùgùnì nká 'té*   'c'est/ce n'est pas le fouet'

---

[6]Si on examine le dictionnaire de Bailleul [1981], on retrouve pour les trisyllabes les mêmes schèmes lexicaux (à savoir H, BH, HB, BHB) que ceux que nous avons posés; ils apparaissent une fois ôté le ton haut qui figure chez cet auteur en finale de tous les noms. Et, on ne remarque aucune exception. La notation de Bailleul correspond aux définis après soustraction du ton bas; les tons sont associés comme dans les définis. Ainsi, note-t-il *săkèné, mísèlí* (à .ceci près que les tons sont chez lui indiqués sous les symboles segmentaux, par un trait pour le ton bas opposé à une absence de trait pour le ton haut).

SCHEME HAUT

(19) indéf. a. *jánkárúbú dôn*   b. *jánkárúbú té*   'c'est/ce n'est pas un fourbe'
      déf.   c. *jánkárúbú dòn*   d. *jánkárúbú 'té*   'c'est/ce n'est pas le fourbe'

SCHEME HAUT BAS

(20) indéf. a. *kúlúkùtù dôn*   b. *kúlúkùtù té*   'c'est/ce n'est pas une boule'
      déf.   c. *kúlúkùtú dòn*   d. *kúlúkùtú 'té*   'c'est/ce n'est pas la boule'

SCHEME BAS HAUT

(21) indéf. a. *gàrì jégé dôn*   b. *gàrì jégé té*   'c'est/ce n'est pas une chance'
      déf.   b. *gàrì jégé dòn*   d. *gàrì jégé 'té*   'c'est/ce n'est pas la chance'

SCHEME BAS HAUT BAS

(22) indéf. a. *kòròkárà dôn*   b. *kòròkárà té*   'c'est/ce n'est pas une tortue'
      déf.   c. *kòrókàrá dòn*   d. *kòrókàrá 'té*   'c'est/ce n'est pas la tortue'

Dans les quadrisyllabes, comme dans les trisyllabes, le schème tonal s'étend ou se resserre en fonction du nombre de syllabes qui lui est laissé après l'association du ton haut de liaison. La différence tient à ce qu'il dispose d'une syllabe en moins.

Nous n'avons pas noté ici les variantes dues aux associations des schèmes HB et BH. Comme dans les trisyllabes leur point commun est l'association "par les extrémités" (le premier ton à la première syllabe et le deuxième ton à la dernière syllabe). Les fluctuations portent sur la ou les syllabes intermédiaires, la tendance générale étant au partage des syllabes à part égale entre les deux tons. Cela est particulièrement clair lorsque les tons d'un schème bitonal se partagent quatre syllabes (20a et b, 21a et b) puisque chaque ton s'associe alors à deux syllabes.

Les schèmes qui rendent compte des tons des quadrisyllabes sont donc encore les mêmes que ceux du mende. Et, en bambara, les exceptions sont à nouveau très peu nombreuses: aucune dans le parler ici considéré, trois dans le dictionnaire de Bailleul [1981], soit les mots *jàhánámá* 'l'enfer', *làhórómá* 'grâce, gloire', *cápùrùcà* 'catégorie de griot', notés avec le ton haut de liaison sur la syllabe finale. Encore, faudrait-il supposer que ces réalisations soient stables et ne viennent pas rejoindre celles des schèmes HB et BH. Si tel était bien le cas, il faudrait envisager de poser, pour ces trois mots, deux schèmes lexicaux supplémentaires à savoir BHH et HHB.

2.3. De la liberté des tons par rapport aux segments: la variété des points de vue. Notre étude vient après de nombreuses analyses où les tons sont apparus beaucoup moins libres par rapport aux segments. Nous avons vu qu'elle

aboutissait même à des conclusions inverses de celles d'un certain nombre d'auteurs en particulier de Courtenay [1974] qui a soutenu explicitement que les tons doivent être totalement associés aux segments et que chaque ton, fixé sur son segment est indépendant des autres tons. Cette dernière position ne faisait cependant pas l'unanimité puisque, comme nous l'avons déjà mentionné, certains auteurs [Welmers 1949, Leben 1973] avaient reconnu des schèmes tonals de mot.

Le lecteur peut évidemment se demander comment une même langue peut donner lieu à des interprétations aussi opposées et si les données varient d'un auteur à l'autre. Dans un appendice, nous examinerons avec précision des données de Courtenay [1974] pour montrer qu'elles sont en fait beaucoup plus proches de celles des autres auteurs, y compris des nôtres que les déclarations théoriques du corps de l'article pouvaient le faire supposer.

On verra alors mieux comment beaucoup de différences viennent en fait de l'analyse et d'un éclairage différent des données en fonction des prises de position théoriques; notre interprétation du système est ainsi fondée sur la reconnaissance de la mouvance du ton haut de liaison et des tons des lexèmes—qui a été très amplement aidée par le cadre théorique autosegmental—et sur l'extraction hors du schème lexical du ton haut final.

2.4. De la primauté du premier ton des schèmes lexicaux. L'observation de la structure tonale des trisyllabes (15 et 16 surtout) et des quadrisyllabes révèle une invariabilité du premier ton: il est le seul qui n'admet pas d'alternance. Au contraire, comme le montre le schème isotone des trisyllabes *mángóró* et *bànfùlà*, le premier ton peut se maintenir seul et se propager à toutes les syllabes du lexème. L'existence même de cette alternance indique que le bambara connaît une organisation hiérarchique des tons lexicaux qui accorde la primauté au premier ton. Cette primauté se trouve d'ailleurs confirmée et justifiée par des propriétés particulières: le premier ton est la "clé de voûte" du schème tonal. Tout d'abord, il est le seul ton qui permette des oppositions entre les noms en bambara, les autres tons du schème lexical n'offrant pas de possibilité de paires minimales.[7] En outre, c'est un fait bien connu que, en bambara, dans la composition nominale et dans la formation des syntagmes dits à compacité tonale, les règles tonales propagent le premier ton à toutes les syllabes des constituants, excepté à celles du dernier qui reçoivent un ton haut. Ainsi, *mángórósún* (formé à partir de *mángóró/mángóró/mángòrò* et de *sún* 'pied (d'arbre)') est la seule forme possible pour le mot composé signifiant 'manguier'. Le premier ton du schème double HB est associé aux trois syllabes de *mangoro* à l'exclusion de l'autre ton. Il en de même dans *bànfùlàbá* 'grand chapeau' (formé à partir de *bànfùlà/bànfùlá/bànfúlá* et de *bá*,

---

[7]L'absence de paires minimales fondées sur un autre ton que le premier d'un schème tonal a d'ailleurs conduit plusieurs auteurs de dictionnaires ou lexiques, entre autres DNFLA [1980] et Dumestre [1981, 1983, 1984], à ne noter que le premier ton des mots. Cette notation a été choisie dans un but de simplicité vu qu'il n'y avait pas de confusion possible.

bá, suffixe augmentatif). Dans le cas de schème tritonal, le premier ton impose également sa primauté sur les deux autres tons. Il est ainsi le seul à s'associer aux syllabes du premier terme de composé dans *sàkènèmúsó* 'sakɛnɛ femelle' (formé sur les lexèmes *sàkéné* et *mùsò*). Lorsqu'on a trois termes dans le nom composé, ce même premier ton s'associe aux syllabes des deux premiers termes. Le composé formé à partir de *sàkénè*, *mùsò* et *bá* sera *sàkènèmùsòbá* 'grande *sakɛnɛ* femelle'. Le même processus continue à s'appliquer dans les noms composés comportant plus de trois termes: le premier ton est toujours propagé sur tous les termes à l'exception du dernier.

Dans les syntagmes dits à compacité tonale, les mécanismes sont encore les mêmes. Ainsi, dans les syntagmes "qualificatifs" de la forme Nom + Adjectif, le premier ton du schème tonal nominal s'associe à toutes syllabes du nom au détriment des autres tons et l'adjectif, dernier terme de syntagme reçoit toujours un ton haut. Par exemple, dans *sàkènè bílén* 'sakɛnɛ rouge' ou *míséli bílén* 'aiguille rouge', le premier ton du schème BHB dans le premier cas et HB dans le second cas, s'étend sur les trois syllabes du nom tandis que *bìlèn* 'rouge' voit son ton bas remplacé par un ton haut.

3. Un Peu Plus Sur le "Ton Haut de Liaison"

Nous avons vu que le "ton haut de liaison" suivait tous les lexèmes nominaux; mais il ne suit pas seulement les lexèmes nominaux. Sa distribution sera ici précisée, ce qui nous permettra de montrer les relations de ce ton avec la catégorie linguistique "lexème" ainsi que sa parenté avec un accent. Il a été d'autre part désigné, tout au long de ce travail, par la dénomination "ton de liaison". Cette fonction de liaison, plus précisément, d'intégration du lexème à une unité supérieure se trouvera confirmée par les occurrences et les absences de ce ton en fonction des frontières en jeu. Enfin, nous verrons que ce ton est susceptible de diverses associations.

3.1. Distribution du ton haut de liaison

3.1.1. Ton haut de liaison et lexèmes verbaux. Le ton haut de liaison suit les lexèmes verbaux comme il suit les lexèmes nominaux mais les constructions syntaxiques et la place du verbe, souvent en finale de phrase, sont moins favorables à son dégagement. On peut cependant le voir apparaître quand on ajoute après le verbe une particule de ton bas telle que *kè* 'bien sûr'.

(23) *à bé mùsò jírà kê*   'bien sûr qu'il montre une femme'

qui résulte de l'association des tons suivants:

$$
\begin{bmatrix} a \\ B \end{bmatrix} + \begin{bmatrix} b\varepsilon \\ H \end{bmatrix} + \begin{bmatrix} \begin{bmatrix} muso \\ B \end{bmatrix} H \end{bmatrix} + \begin{bmatrix} \begin{bmatrix} jira \\ B \end{bmatrix} H \end{bmatrix} + \begin{bmatrix} k\varepsilon \\ B \end{bmatrix} \rightarrow
$$

$$
\begin{bmatrix} a & b\varepsilon & muso & jira & k\varepsilon \\ | & | & \diagdown & \diagup & \diagup \\ B & H & B & H & B & H & B \end{bmatrix}
$$

Nous verrons plus loin d'autres exemples qui mettront également en évidence ce ton haut de liaison, ainsi que sa double possibilité d'association.

3.1.2. Ton de liaison et autres lexèmes. Lexèmes nominaux et verbaux constituent la majorité des lexèmes; les autres lexèmes sont beaucoup moins nombreux. Il s'agit principalement des lexèmes numéraux et "adjectivaux". Ceux-ci ne font pas exception quant au ton haut de liaison.

Les exemples (34) et (41) (présentés plus loin) et qui contiennent des numéraux mettront en évidence la présence du ton haut de liaison après ces lexèmes. Les lexèmes adjectivaux, dont le nombre n'atteint pas cinquante, apparaissent quant à eux soit dans des syntagmes dits "qualificatifs", où ils jouent le rôle de déterminant, soit dans une construction à prédicat adjectival. Dans le premier cas, ils perdent leur autonomie tonale et fonctionnent comme partie d'un syntagme à compacité tonale (cf. §2.4). Par contre, dans la construction à prédicat adjectival, ils sont plus indépendants et sont suivis du ton haut de liaison.

(24) *à ká fìn kê*   'il est noir, bien sûr'

$$
\begin{bmatrix} a \\ B \end{bmatrix} + \begin{bmatrix} ka \\ H \end{bmatrix} + \begin{bmatrix} \begin{bmatrix} fin \\ B \end{bmatrix} H \end{bmatrix} + \begin{bmatrix} k\varepsilon \\ B \end{bmatrix} \rightarrow \begin{bmatrix} a & ka & fin & k\varepsilon \\ | & | & | & \diagup \\ B & H & B & H & B \end{bmatrix}
$$

Ce ton haut est aussi susceptible d'une autre association (cf. §3.3).

Il resterait encore à traiter des lexèmes adverbaux. Cependant, une fois mis à part les lexèmes locatifs tels que *yàn* 'ici' ou *yèn* 'là-bas' et les lexèmes temporels tels que *bì* 'aujourd'hui' ou *kúnún* 'hier', rattachables à l'ensemble des lexèmes nominaux, il ne reste guère que des adverbes idéophoniques. Ces derniers se caractérisent par un schème tonal uniformément haut, à l'exception de *gùrùbùgúrúbú* 'bruit de galop' (cf. Bailleul [1981]) qui lui-même se termine par des tons hauts, et sont toujours placés à des frontières (cf. §3.2) qui ne permettent pas de dégager un éventuel ton de liaison.

3.1.3. Morphèmes non suivis de "ton haut de liaison".

(i) Les pronoms:

(25)   *à té à fàgàlà*   'il ne le tue pas (= il n'est pas en train de le tuer)'

(26)   *à té í fàgàlà*   'il ne te tue pas (= il n'est pas en train de te tuer)'

Après *à* (25) comme après *í* (26), la première syllabe du verbe reste de ton bas.
    Il faut signaler ici un clivage entre les pronoms. Certains, principalement les démonstratifs, fonctionnent comme des nominaux vu qu'ils sont suivis du ton haut de liaison (42) et peuvent admettre le ton bas du défini.

(ii) Les prédicatifs *bé, má, té*:

(27)   *à bé fèèrèlà*   'il/elle/c'est à vendre' (= on est en train de le/la vendre)

(28)   *à bé féérélá*   'il/elle est en train de fleurir'

(29)   *mùsò té yàn*   'il n'y a pas de femme ici'

(30)   *mùsó 'té só*   'la femme n'est pas à la maison'

(31)   *à má sì gì*   'il ne s'asseoit pas' (ce n'est pas sa volonté)

(32)   *à té sì gì*   'il ne s'asseoit pas' (ce n'est pas sa ou ma volonté)

    Après *bé, má, té*, le mot qui suit garde son ton. S'il a un ton bas, celui-ci n'est pas relevé, ce qui indique l'absence de ton haut flottant. S'il a un ton haut, celui-ci n'est pas rabaissé, d'où on peut conclure à l'absence de ton bas flottant.

(iii) Morphème de syndèse *ní*:

(33)   *mùsò ní cè*   'femmes et hommes' (tous confondus)

(34)   *milsí bà kélén ní kèmé sàbà*   'mille trois cents vaches'

(35)   *súngúrún ní kámálén*   'jeunes filles et jeunes hommes'

Après *ní*, le ton bas du nom suivant reste bas (33, 34) et un ton haut n'est pas rabaissé (35).

La liste n'est pas exhaustive, mais on voit qu'elle concerne les mots fonctionnant comme des clitiques dans de nombreuses langues à accent.

3.1.4. Ton haut de liaison, marque du "lexème", et parenté avec un accent. Nous avons vu que les lexèmes nominaux, verbaux, numéraux et adjectivaux du bambara sont suivis d'un ton haut de liaison alors que les morphèmes prédicatifs, les morphèmes de syndèse, etc. ne le sont pas. Or, les systèmes accentuels comportent couramment les mêmes répartitions entre lexèmes porteurs d'accent et autres morphèmes dépourvus d'accent.

En bambara, le "ton haut de liaison" est une caractéristique du lexème; c'est le signifiant de cette catégorie linguistique: il s'ajoute aux composantes lexicales du lexème. Tout lexème a ainsi la structure suivante:

$$\left[\begin{array}{c} \sigma\ldots \\ T\ldots \end{array} \right] H$$

où σ… représente une suite de syllabes et T… une suite de tons, ces suites pouvant être réduites à une seule unité.

Le ton haut de liaison, étant lui-même un ton, se trouve sur la même "ligne" que les tons lexicaux. Le rôle du ton haut est comparable, en tant que marque catégorielle, à celui de l'accent dans une langue à accent fixe. Dans ce type de langues, l'accent n'a, en effet, pas de fonction distinctive; mais il peut caractériser le lexème ou une classe de morphèmes.

3.2. Frontières où le ton haut de liaison est absent et fonction de liaison ou d'intégration du ton haut. Nous avons déjà mentionné au passage (11, 12) la chute de tons hauts de liaison en finale de phrase. Il s'agit en fait d'un mécanisme régulier: le ton haut de liaison tombe en finale d'énoncé ainsi que devant une frontière forte.

Examples en finale d'énoncé.

(36) *cè ní mùsò*   'hommes et femmes'

(37) *cě 'bé bòlì*   'l'homme court' (vérité générale)

Exemples à une frontière forte.

(38) *jírí bɔ́   dàbà 'lá*   'déracine l'arbre avec la houe'
       Vb. S. Postp.

(39) à *sígí* *tàbálí kàn*   'pose-le sur la table'
          Vb.   S. Postp.

(40) à *fàrà* *mùsó 'búlótá kàn*   'ajoute(-le) à ce que la femme a en mains'
          Vb.   S. Postp.

Dans ces derniers exemples, la frontière forte où le ton haut est absent se situe entre le verbe et le complément postpositionnel (S. Postp.).

   Le ton haut disparaît dans les contextes de rupture, de disjonction; ce qui traduit, à l'inverse, sa fonction de liaison, d'intégration. Il rend le lexème intégrable à une unité supérieure. Par lui, le lexème devient "prêt à l'emploi".

3.3. Diverses associations du "ton haut de liaison". Dans les associations étudiées jusqu'ici, le ton haut s'associait toujours à l'initiale du mot suivant mais il existe un autre possibilité: l'association avec la syllabe finale du mot précédent. Dans le parler étudié ici, certaines frontières admettent les deux possibilités d'association bien que souvent une des deux soit préférentielle. Nous n'insisterons pas sur ce point parce qu'il faudrait faire une analyse de l'ensemble des frontières et des implications sémantiques et énonciatives du choix de l'une ou l'autre des deux associations.[8] En outre, une comparaison dialectale aurait pu montrer les choix opérés par les différents dialectes. Cependant, nous nous contenterons ici de montrer que les deux possibilités d'association peuvent coexister.

Exemples de double possibilité d'association:

(41)   a. *à yé mùrù sábà sàn*   'il a acheté trois couteaux'

       b. *à yé mùrú sàbá sàn*   il a acheté trois couteaux'

NB: Il n'y a pas de différence de sens entre (41a) et (41b).

   L'exemple (41a) résulte de l'association des tons suivants:

---

[8]Plus de précisions seront données dans la thèse de Mamadou Sangaré [en préparation] portant sur la phonologie de plusieurs dialectes et qui traitera plus particulièrement des diverses marques de frontières, qu'elles soient segmentales ou tonales. L'étude des frontières en khassonké (langue du même sous-groupe mandingue) a déjà été amorcée dans le mémoire de licence de M. Sangaré [1982].

$$
\begin{bmatrix} a \\ \\ B \end{bmatrix} + \begin{bmatrix} ye \\ \\ H \end{bmatrix} + \begin{bmatrix} \begin{bmatrix} muru \\ \\ B \end{bmatrix}_H \end{bmatrix} + \begin{bmatrix} \begin{bmatrix} saba \\ \\ B \end{bmatrix}_H \end{bmatrix} + \begin{bmatrix} \begin{bmatrix} san \\ \\ B \end{bmatrix}_H \end{bmatrix} \rightarrow
$$

$$
\begin{bmatrix} a \quad ye \quad muru \quad saba \quad san \\ \mid \quad \mid \quad \vee \quad \diagup \quad \mid \quad \diagup \\ B \quad H \quad B \quad H \quad \ B \ H \ B \end{bmatrix}
$$

Les tons de liaison s'associent à "droite", avec la première syllabe du mot suivant.

L'exemple (41b), quant à lui, résulte de l'association suivante:

$$
\begin{bmatrix} a \\ \\ B \end{bmatrix} + \begin{bmatrix} ye \\ \\ H \end{bmatrix} + \begin{bmatrix} \begin{bmatrix} muru \\ \\ B \end{bmatrix}_H \end{bmatrix} + \begin{bmatrix} \begin{bmatrix} saba \\ \\ B \end{bmatrix}_H \end{bmatrix} + \begin{bmatrix} \begin{bmatrix} san \\ \\ B \end{bmatrix}_H \end{bmatrix} \rightarrow
$$

$$
\begin{bmatrix} a \quad ye \quad muru \quad\quad saba \quad\quad san \\ \mid \quad \mid \quad \mid \quad \diagdown \quad \mid \quad \diagdown \quad \mid \\ B \quad H \quad B \quad H \quad B \quad H \quad B \end{bmatrix}
$$

Les tons hauts de liaison se sont ici associés à "gauche", avec la dernière syllabe du mot précédent.

Il faut signaler que cette double association révèle la chute du ton haut de liaison devant un ton haut lexical. Si ce ton haut, en effet, ne tombait pas, on devrait le voir apparaître en cas d'association à "droite" sur la syllabe d'un mot à ton bas. Or, à côté du doublet *mùrù sábà/mùrú sàbà* 'trois couteaux', on ne trouve qu'une seule forme: *mùrù náání* 'quatre couteaux'. Si le ton de liaison était maintenu, on attendrait la forme **mùrú náání*, qui n'existe pas. La chute d'un ton haut flottant devant un ton haut lexical est d'autre part une règle très courante. Dans un autre ordre d'idées, elle évoque aussi la chute d'une consonne de liaison devant une consonne en début de mot suivant (cf. *peti[t] chat/petit ami*).

Un autre exemple peut être ajouté:

(42) a. *ŏ fèèré kè*   b. *ò féérè kê*   'vends-ceci, bien sûr'

la double association étant la suivante:

$$
\begin{bmatrix} o \quad\ feere \quad\ k\varepsilon \\ \diagdown\!\diagdown \quad \diagup\!\diagdown \quad \mid \\ B \ H \ B \quad H \quad B \end{bmatrix} \Big/ \begin{bmatrix} o \quad\ feere \quad\ k\varepsilon \\ \mid \quad \diagup \quad \mid \quad \diagup \\ B \ H \quad\ B \ H \ B \end{bmatrix}
$$

On aura aussi pu noter qu'en fonction des sens d'association du ton haut flottant, un ton de lexème pourra se trouver soit sur la première soit sur la deuxième syllabe d'un disyllabe. Cela confirme la non-association préalable de ce ton à l'une ou l'autre syllabe.

4. Conclusion

C'est en fait une partie importante de la tonologie du bambara qui a été examinée à partir des schèmes tonals nominaux et on a vu apparaître les lignes de force du système.

Pour que ce système apparaîsse dans sa cohérence, il nous a fallu cerner la nature d'un ton haut énigmatique que nous avons appelé "ton haut de liaison", vu son comportement dans l'énoncé. Présent à la fin de tous les lexèmes, celui-ci constitue une marque de la catégorie lexème et peut être rapproché à divers égards d'un accent.

La dissociation des deux tons flottants—haut de liaison et bas du défini—était indispensable pour qu'apparaissent les tons propres (schèmes tonals lexicaux) des lexèmes, qui se sont révélés comparables à ceux du mende.

Nous avons pu montrer que tons et syllabes n'étaient pas liés intrinsèquement dans la constitution des morphèmes. Si nous étions partis de l'hypothèse inverse, les tons étant des attributs de syllabe, nous aurions dû avoir recours à des règles successives complexes, en particulier de désassociations et de réassociations qui auraient obscurci la nature effective des processus en jeu.

Les tons (ou schèmes tonals) et syllabes, constitutifs les uns et les autres des morphèmes, s'associent en cours de dérivation. Il est apparu que cette association se fait fondamentalement dans une *phase postlexicale*, au cours de la formation de l'énoncé. L'absence de *phase lexicale* d'association a diverses expressions dans les faits. Une des plus frappantes est sans doute celle des "schèmes accordéon" que nous avons ainsi nommés par allusion à l'étirement ou au resserrement qu'ils subissent.

Les modalités d'association des tons ont été précisées et des principes d'association souvent inédits (association de droite à gauche, association "par les extrémités") ont été trouvés.

A partir de l'identification des tons en présence dans les noms, on a donc vu progressivement se dégager l'organisation d'ensemble du système tonal—tons ou schèmes lexicaux, ton haut de liaison comparable à un accent, ton bas du défini—avec une association fondamentalement postlexicale, au niveau de l'énoncé.

APPENDICE

Par notre analyse, nous nous situons dans la lignée des auteurs qui ont reconnu des schèmes tonals de lexème en bambara ou maninka [Welmers 1949, Spears 1966, Leben 1973]. Or, ceux-ci ont été accusés d'avoir simplifié les données ou de s'être appuyés sur des données simplifiées par Courtenay [1974]. D'après cet auteur, une vue non tronquée des données invalide toute hypothèse de ce type, y compris rétroactivement la nôtre. Dans un appendice, elle fournit l'ensemble des schèmes possibles pour les noms, les verbes et autres morphèmes en bambara. C'est cet appendice qu'il nous faut examiner et commenter et on verra qu'il y a en fait, dans l'ensemble, concordance entre ses données et les nôtres.

1. Les schèmes des monosyllabes

Il y a parfaite convergence entre nos données et celles de Courtenay qui reconnaît les schèmes haut et bas haut pour les noms et les verbes, le schème bas n'apparaissant que dans les autres morphèmes, e.g. *à* 3ème personne du singulier, *kà* marque d'infinitif.

2. Les schèmes des disyllabes

Pour les noms et les verbes, Courtenay reconnaît les schèmes HH et BH qui correspondent à nos schèmes H et B suivi du ton haut de liaison mais trouve, en outre, pour certains noms, un schème HB. Ce schème est illustré par les exemples suivants: *kúnùn* 'hier' et *Sáràn* (nom propre).

Notons d'abord que *kúnùn* est transcrit *kúnún* par de nombreux auteurs. De fait, le schème HB est très peu fréquent dans les disyllabes. On ne peut le trouver que dans des lexèmes temporels ou locatifs ou encore dans des morphèmes de syndèse, dont *sánì* 'avant' et *wálì* 'ou' cités par ailleurs par Courtenay. Ce schème apparaît également dans des noms propres, qui, comme dans beaucoup de langues, constituent une catégorie à part. Or, une fois écarté ce schème HB, les schèmes présents chez Courtenay réinterprétés dans notre optique deviennent similaires aux nôtres.

3. Les schèmes des trisyllabes

Les schèmes figurant dans la liste de Courtenay sont les suivants: HHH, BBH, BHB, HBH, BHH, HHB.

Les schèmes avec ton haut final ont les correspondants suivants dans notre analyse:

Courtenay	Rialland et Sangaré
HHH	H(H)
BBH	B(H)
HBH	HB(H)
BHH	BH(H)

(les tons lexicaux étant suivis du ton haut de liaison mis entre parenthèses)

Parmi les schèmes terminés seulement par un ton bas, le schème HHB illustré seulement par des noms propres ne peut être retenu. Par contre, le schème BHB est, en fait, le même que notre propre schème lexical BHB. C'est celui que nous aurions posé dans l'exemple de Courtenay *kùnánjè* 'le héron' qui, à l'indéfini, porte effectivement ces trois tons, identiques à ceux que nous avons rencontrés dans la forme indéfinie de *sàkénè*, par exemple. Ce schème a peut-être été dégagé par Courtenay dans des contextes où le ton haut était absent ou reporté sur la syllabe suivante.

En définitive, il est apparu que nos schèmes, avec adjonction du ton haut de liaison, pouvaient expliquer les données de Courtenay.

4. Les schèmes des quadrisyllabes

Les schèmes relevés par Courtenay pour les noms et les verbes sont les suivants: HHHH, BBBH, BHBH, BBHH, HHBH, BBHB, HBHB.

Pour les schèmes terminés par un ton haut, la correspondance avec nos schèmes s'établit comme suit:

Courtenay	Rialland et Sangare
HHHH	H(H)
BBBH	B(H)
BHBH	BHB(H)
BBHH	BH(H)
HHBH	HB(H)

On aura pu reconnaître l'ensemble des schèmes que nous avons dégagés. Les schèmes terminés par un ton bas ne sont, à nouveau illustrés que par des noms propres ou des temporels. Plusieurs des notations ne font d'ailleurs pas l'unanimité, *Màlòbálì* et *kúnàsínì* 'avant-hier' étant, en général transcrits avec le schème BBHH.

A y regarder de plus près, on voit que nos données et celles de Courtenay sont plus proches que l'on aurait pu le soupçonner et, qu'une fois les formes sériées, il n'y a pas d'obstacle à une réinterprétation en termes de schème tonal de lexème.

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THEMATIC LINKING IN HAUSA ASYMMETRIC COORDINATION*

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This paper investigates "asymmetric coordination" in Nigerian Hausa. A range of constructions is presented in which asymmetric coordination occurs, and their syntactic and semantic properties are established. A "regularizing" analysis is considered, in which asymmetric coordination is represented as a symmetric coordination headed by an empty category, but this is rejected due to the exceptional distributional properties which would have to be assumed for the construction. An interpretive analysis is proposed which has the effect of incorporating the feature information of an independent NP marked by a "linker" into a dependent plural argument, and symmetric and asymmetric coordination are distinguished as involving interpretive operations of set union and set unification, respectively.

1. Introduction

The work reported on in this paper is part of a larger investigation I have undertaken concerning the typological properties of what I'll call "asymmetric co-

ordination"; other studies on aspects of these constructions appear in Schwartz [1987a, 1987b, 1988a, 1988b, 1989, in preparation]. In this paper, I'll use the term "thematic coordination" to refer to an interpretation in which two (or more) participants share the same thematic role within a clause. In many languages, the symmetry of thematic coordination is expressed in a symmetric syntax of the English coordination type shown in (1).

(1) a. Sam and Sally went to the movie
     b. They saw Sam and Sally
     c. We sent letters to Sam and Sally

However, in many other languages, thematic coordination can be expressed in an asymmetric syntax, generally with overtones of greater cohesion along one of a number of parameters (see Schwartz [1987b]). In previous work, I have referred to the syntax of structures of this type as "asymmetric coordinations". In Hausa, there is a particularly rich range of asymmetric syntactic structures of this type, as shown in (2-4), with the crucial parts of the structure given in bold face type.[1]

(2) **mun** je kasuwa **da Audu**
     1PL go market & Audu
     'Audu and I went to the market'

(3) Audu ya: gan **mù** jiya   **da Binta**
     Audu 3m see 1PL yesterday & Binta
     'Audu saw Binta and me yesterday'

(4) a. Audu ya: faɗa **manà**   labari **da Binta**
         Audu 3m tell IOM+1PL story   & Binta
         'Audu told the story to Binta and me'

     b. *Audu ya: faɗa **manà da Binta** labari

---

[1]The crucial judgements and interpretations of the structures involved are from Nigerian Hausa: Dr. Junaidu is from Katsina and Dr. Sani is from Kano. I am informed by Attouman Bachir that some of the grammaticality judgements and interpretations represented here do not hold for the Hausa spoken in Niger. Hausa examples are cited for the most part using standard Hausa orthography. However, this orthography does not represent tone and vowel length. Since tone and vowel length are distinctive in pronominal forms and since it is crucial in this study to distinguish the various pronominal paradigms, these forms will be marked for tone and length. High tone will be unmarked, and low tone will be marked with a grave accent (`). A colon (:) will mark long vowels.

In (2), the plural morphology on the obligatory pronominal element *mun* preceding the main verb is the only overt cue to a thematic coordination, and the NP linked to the clause by *da* is interpreted as one member of that coordination. In (3), the thematic coordination is manifested syntactically by a plural direct object pronoun *mù* and an NP linked by *da*. [2] The crucial dual interpretation of (3) indicates that the plural pronoun is not necessarily interpreted literally but, as in (2), can simply indicate that an argument, i.e. a participant playing a role in an event specified by the predicate, consists of a set, where the NP linked by *da* is one member of the set. In (4), the thematic coordination is manifested syntactically as a plural indirect object pronoun (identified by the marker *ma*) and an NP linked by *da*. It is clear from examples (2)-(4) that the overt syntactic elements of the thematic coordination do not form a surface syntactic constituent. In (2), the *da*-phrase is separated from the preverbal pronominal element by the verb and its subcategorized complements. In (3), the *da*-phrase is separated from the direct object pronoun by a temporal adjunct, and in (4), the *da*-phrase is obligatorily separated from the indirect object pronoun by the direct object, as demonstrated by the ungrammaticality of (4b).

Sentences like those in (2)-(4) are glossed here with a dual interpretation, where the thematic coordination has only two members. Since Hausa has no dual vs. plural contrast, sentences like those in (2)-(4) can also be interpreted compositionally, as they would have to be in a language like English. That is, taking (2) for example, *mun* is plural, so it can be interpreted as identifying a set of two or more participants, and adding *da* NP yields a total of three or more. In fact, (2) can have all three of the interpretations given in (5).

(5) i.   Audu and I went to the market.   (dual asymmetric coord.)
    ii.   We and Audu went to the market.   (plural asymmetric coord.)
    iii. We went to the market with Audu.   (plural comitative)

While the compositional interpretations are probably universally available for constructions of this type in human languages (unless they have a dual/plural distinction), only a subset of languages allow the non-compositional dual interpretation like that in (5i). In the discussion that follows, I will concentrate on that crucial dual interpretation.

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[2]In Hausa, nouns are not case-marked. Pronouns are traditionally divided into several paradigms: the independent paradigm, the direct object paradigms, the indirect object paradigm, and various preverbal pronoun paradigms which vary with tense/aspect. The grammatical function terms subject, direct object, and indirect object as used in this paper will refer to NP's (either noun-headed or pronoun-headed) for which the corresponding pronoun is from the preverbal paradigms, the direct object paradigm or the indirect object paradigm respectively. Thematic role terms used here will include the term "dative" to refer to animate goals and benefactives.

I argue in this paper that the *da*-phrase in such constructions behaves syntactically like an adjunct but semantically like part of one of the grammatical relations encoded pronominally on the preverbal pronoun, the verb, or the indirect object marker. I propose an analysis which has the effect of semantically combining the information of the *da*-phrase with the information of a plural pronominal argument within its clause, where the NP linked by *da* would then assume the thematic role of the pronominal argument and be interpreted as a member of the set specified by the pronominal argument.

In §2, I briefly present the relevant facts and generalizations about the syntactic and semantic properties of asymmetric expressions of thematic coordination in Hausa. In §3, I give reasons why an empty category analysis of this construction is problematic. In §4, I present an interpretive analysis along the lines outlined above. In §5, I deal with some apparent problems for the analysis presented in §4, and in §6, I propose a formal distinction between symmetric and asymmetric coordination.

2. The Structure of Asymmetric Coordination in Hausa

2.1. Symmetric coordinations, asymmetric coordinations, and comitatives. The first step is to distinguish asymmetric coordinations from symmetric coordinations and comitative structures.

2.1.1. Symmetric coordinations. Symmetric coordinations and comitatives are syntactically similar to asymmetric coordinations in Hausa, in that all involve the presence of the free morpheme *da* occurring before at least one NP. The following points are crucial in distinguishing symmetric coordination from asymmetric coordination:

   i. Symmetric coordinations are optionally introduced by *da*, and each subsequent conjunct is obligatorily preceded by *da*, as shown in (6).[3] There is no limit to the number of NP's which can be part of a symmetric coordination.

(6) *(da) Dauda da Audu (da Bala ...) sun je kasuwa*
    &   Dauda &   Audu (& Bala ...) 3PL go market
    'Dauda and Audu (and Bala ...) went to the market'

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[3]The morpheme *da* is not confined to these constructions. See §3 for some further examples of *da*-phrases. For an extensive account of expressions using *da* as a linker, see Kraft [1970]. *Da* in its linking sense will be glossed "&" in examples.

ii. When independent pronouns are conjoined in symmetric coordinations, there is no absolute person restriction on order within the coordination, as shown in (7).[4]

(7) a. *da niː da shiː mun je kasuwa*   'he and I went to the market'
       & 1   & 3m 1PL go market

   b. *da shiː da niː   mun je kasuwa*
       & 3m & 1   1PL go market

iii. In the case of indirect object symmetric coordinations, it is acceptable for all members of the coordination to appear before the direct object, as shown in (8) and (9).

(8) *Audu yaː kawo wa   da Bala da Binta abinci*
    Audu 3m took DM & Bala & Binta food
    'Audu took food to Bala and Binta'

(9) *Audu yaː kawo wa   da niː da Binta abinci*
    Audu 3m took DAT & 1 & Binta food
    'Audu gave food to me and Binta'

More generally, symmetric coordinations must be contiguous. This is demonstrated by the ungrammaticality of (10) and (11), where subject and direct object respectively are discontinuous.

(10) **da Audu sun je Kano da Bala*
        & Audu 3PL go Kano & Bala

(11) **Audu yaː kawo wa   da Bala abinci da Binta*
        Audu 3m bring DAT & Bala food   & Binta

2.1.2. Asymmetric coordinations. Asymmetric coordinations differ from symmetric coordinations in the following points:

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[4]There seems to be a 1 < 2 < 3 preference for conjoined pronouns. This preference is apparently less strong for a pronoun conjoined with a noun, so that in (7), (a) is preferred over (b), but in (7'), there is no corresponding preference.

(7') a. *da niː da Audu   mun je kasuwa*
         & 1 & Audu 1PL go market

   b. *da Audu   da niː mun je kasuwa*
         & Audu & 1 1PL go market

     'Audu & I went to the market'

i. Asymmetric coordinations cannot occur where the plural pronoun is from the independent paradigm (glossed in the following examples as IND). This is illustrated in (12) for preverbal pronouns, parallel to (2) repeated here as (13). In (12), where there is an independent subject pronoun, there is no dual interpretation.

(12) *muː   mun je kasuwa da Audu*   'we and Audu went to the market'
     1PL-IND 1PL go market   &   Audu

(13) *mun je kasuwa da Audu* (=(2))   'Audu and I went to the market'
     1PL go market   &   Audu

ii. This entails that the "coordinate" elements of asymmetric coordinations cannot be interchanged while still maintaining the crucial dual interpretation, as shown in (14), where in (14b), the plural pronominal element is after *da* and a third person singular pronominal element occurs preverbally.

(14) a. *mun je kasuwa da shiː*   'he and I went to the market'   (dual)
        1PL   go market   & · 3m

     b. *yaː je kasuwa da muː*   'he went to the market with us'   (non-dual)
        3m go market   &   1PL

The sentences in (15) demonstrate the same point for asymmetric coordination with object function.

(15) a. *sun gan mù da ita*   'they saw me and her'   (dual)
        3PL see   1PL & 3f+IND

     b. *sun gan tà da muː*   'they saw her and us'   (non-dual)
        3PL see   3f   & 1PL+IND

In (15a), the first person plural pronoun *mù* is from the direct object paradigms, and the third person feminine singular pronoun *ita* is from the independent paradigm. Here, the crucial dual interpretation is possible. In (15b), the third person feminine singular pronoun *tà* is from the direct object paradigms, and the first person plural pronoun *muː* is from the independent paradigm. Here, the dual interpretation is not possible.

iii. From **i** it also follows that in asymmetric coordination, where no independent pronoun is present, the "linking morpheme" *da* cannot occur before each constituent of the thematic coordination, as shown in (16-18). This is because, as

stated earlier, *da* takes as its object only pronouns from the independent paradigm. I will demonstrate in §4 that none of the plural pronouns crucial to the dual interpretation in asymmetric coordinations are syntactically independent.

(16) **da mun je kasuwa da Audu*   'Audu and I went to the market'
      & 1PL go market & Audu

(17) *Audu ya: gan *da mù jiya da Binta*
     Audu 3m see & 1PL yesterday & Binta
     'Audu saw Binta and me yesterday'

(18) *Audu ya: faɗa *da manà labari da Binta*
     Audu 3m tell & DAT+1PL story & Binta
     'Audu told the story to Binta and me'

iv. Asymmetric coordinations are obligatorily discontinuous for NPs with dative thematic function when a theme-object is present, as shown in (4b).[5] Examples (19) and (20) illustrate this further.

(19) a. *Bala ya: kawo manà abinci da Musa*
       Bala 3m bring DAT-1PL food & Musa
       'Bala brought food to me and Musa'

    b. **Bala ya: kawo manà da Musa abinci*

(20) a. *an biya mù albashinmu da Musa*
       3impers pay 1PL salary+1POSS & Musa
       'the salary was paid to me and Musa' (lit.: 'one payed the salary ...')

    b. **an biya mù da Musa albashinmu*

In (19), the verb *kawo* 'bring' has two NP objects. The one with dative thematic function occurs immediately following the verb and is marked with an indirect object marker (*wa* for NP, *ma* for pronouns in Standard Kano Hausa). In (20), the verb *biya* 'pay' is one of a very few verbs in Hausa which take two NP objects where the object with dative thematic function occurs immediately following the verb and is taken from the direct object paradigms. In examples of both types, the NP with

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[5]This obligatory discontinuity can be considered to be a result of the dependent nature of the object pronouns which immediately follow the verb in Hausa. See §4 for additional discussion of this point.

dative thematic function precedes the NP with theme function and in both cases, asymmetric coordination is necessarily discontinuous.

v. Asymmetric coordination is binary—*da* can only introduce one NP, as shown in (21)—cf. (6).

(21) *mun   je kasuwa da Bala *da Audu*
     1PL+PAST go market   &   Bala   &   Audu

2.1.3. Comitatives. The structure in (2) can be the expression of an asymmetric coordination, where there is no independent subject noun phrase or pronoun and where the *da*-phrase is interpreted as one member of the set specified by the plural preverbal pronoun. Recall that the crucial interpretation is one where the set has only two members—that is, a dual interpretation, as given in (5i). Comitative structures overlap to a great extent with asymmetric coordinations, as shown by the interpretation in (5iii). However, they differ from the asymmetric coordination structure in several ways. First, they allow a singular preverbal pronoun, as in (22), or singular object pronoun, as in (23).

(22) *(ni:)   na: je kasuwa da Audu*
      1+IND 1   go market   &   Audu
     'I went to the market with Audu'

(23) *Audu ya: gan ni da Binta*
      Audu 3m   see 1 &   Binta
     'Audu saw me (when I was) with Binta'

Second, comitative constructions are compatible with the presence of pronouns from the independent paradigm, as shown by the permissibility of the independent subject pronoun in (22) and by the plural comitative interpretation of (2) given in (5iii). Lastly, comitatives differ from coordinations in the control of adjunct modifiers, as will be shown in §2.3.

   It is important to distinguish the comitative and coordinate structures and their corresponding interpretations, since these apparently have distinct entailments in at least some contexts. This is not so obvious for the examples given above, since many involve a motion verb, and "accompaniment" as well as thematic coordination would both require that the referent of the *da*-marked NP follow the same trajectory as that of the subject along the path specified by the motion verb. However, with non-motion verbs, the distinct entailments become clearer, as seen in examples (24) and (25).

(24) *sun   mutu tare   da   abokinsa*
    3PL die   together &   friend-3/POSS
    i) 'he and his friend died'
    ii) 'they died, and his (somebody else's) friend was with them and may or
        may not have died'

(25) *Audu   yaː mutu tare   da   abokinsa*
    Audu   3m die   together &   friend-3/POSS
    'Audu died with his friend (who may or may not have died too)'

The asymmetric coordination interpretation (24i) of a sentence like (24) entails that everyone died, while the comitative interpretation (24ii) does not have this entailment. This is also shown in (25), which is only comitative because of the singular possessive pronoun. Note also in the interpretation (24i) that with the dual reading, the third singular possessive on *aboki* 'friend' can be coreferential with the other member of the thematic coordination, but it cannot be in (24ii). This is because in the latter interpretation, the subject is plural while the possessive is singular. While it is the case that the comitative construction may have the interpretation that everyone died, the point is that this is not a necessary interpretation, and the plausibility of the interpretation varies with the pragmatics of the situation.[6]

   In this section, I have distinguished three very similar constructions: symmetric coordination, asymmetric coordination, and comitative. Only asymmetric coordination will have plural morphology but a permissible dual interpretation. In the rest of the paper, I will take the permissible occurrence of *da* before each conjunct as diagnostic of symmetric coordination and the permissible absence of a plural pronoun as diagnostic of a comitative.

2.2. Extraction structures. Evidence from extraction structures indicates that asymmetric coordinations apparently do not behave like syntactic coordinate

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[6]There is actually more slippage here than I can account for easily, even though some cases, such as that in (24-25), seem quite clear. In a sentence that is pragmatically loaded against the participation of the *da*-marked NP, such as (i) and (ii), the comitative and asymmetric coordination interpretations are much closer: in this case, even with the crucial dual interpretation of (ii), first person and baby, speakers feel that this does not entail that the baby must be working:

(i)   *taː yi aiki   a   gona da jariri*
     3f do work   in field & baby

     'she worked in the fields with the baby'

(ii) *mun yi aiki   a   gona da jariri*
     1PL do work   in field & baby

     'I worked in the fields with the baby'

structures of the English type, in that the sequence [*da* NP] can be displaced from its postverbal position in topic constructions and focus constructions[7] and still maintain the crucial dual interpretation, as shown in the examples (26-30).[8]

Topic

(26) *da Bala (kam), mun je kasuwa*
     & Bala TOP 1PL go market
     'as for Bala, he and I went to the market'

(27) *da Musa (kam), Audu yaː gan mù*
     & Musa TOP Audu 3m see 1PL
     'as for Musa, Audu saw me and him'

Focus

(28) *da Bala (ne) muka jeː kasuwa*
     & Bala FOC 1PL+rc[9] go market
     '**BALA** and I went to the market'

(29) *da Musa (ne) Audu ya gan mù*
     & Musa FOC Audu 3m+rc see 1PL
     'Audu saw me and **MUSA**'

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[7]See Junaidu [1987] for an analysis of topic and focus constructions in Hausa. Both of my primary consultants allowed forms with overt topic morphology and without resumptive pronouns, as these examples illustrate. It should be noted, however, that topic structures also occur with resumptive pronouns. These would not be analyzed as extraction structures, however, and would not be relevant to the issue addressed here. If there are speakers with more restrictive topic structures which require resumptive pronouns, however, the same point can be made taking the evidence from the focus structures.

[8]This evidence would also indicate that what I am calling symmetric coordination in Hausa is not totally analogous to English coordination, since extraction is allowed there as well, as shown in (i) and (ii) below.

(i)   *da Binta ce, da Audu sun tafi*
     & Binta TOP & Audu 3PL go

   'as for Binta, she and Audu went'

(ii) *da Musa ne da Audu zaː sù zo*
     & Musa FOC & Audu FUT 3PL come

   '**MUSA** and Audu will come'

[9]The abbreviation *rc* is used here for the "relative completive" aspect in Hausa.

(30) *da Binta (ne) ya   faɗa manà   labari*
      &   Binta TOP 3m+rc tell   DAT+1PL story
      'he told me and **BINTA** the story'

(31) *da wa Lami ta   ba   kù   abinci?*
      &   who Lami 3f+rc give 2PL food
      'who (sg.) besides you (sg.) did Lami give food to?'
      (lit.: 'and who did Lami give you food?')

The dual interpretation is also possible in relative clauses as shown in (32). However, as can be seen from these examples, Hausa relative clauses are formed using a resumptive pronoun strategy, so these are not extraction structures.[10]

<u>Relative Clause</u>

(32) *matar da   ya   gan mu da ita tanaː   zuwa Kano*
      woman REL 3m+rc see   1PL & her 3f+PROG come Kano
      'the woman that he saw me and her is coming to Kano'

2.3. Control. Even though there seems to be no syntactic evidence that asymmetric coordinations behave like a syntactic coordination, control evidence indicates that they do behave like a single grammatical relation, in that the *da*-phrase is interpreted as part of the set which can function as controller in obligatory control structures. For example, asymmetric coordinations can antecede reciprocal pronouns, as shown in (34), and function as controllers for adjunct modifiers, as shown in (36).

(33) *da Audu da Dauda sunaː   dukan juna*
      &   Audu & Dauda 3PL+prg beat   RECIP
      'Audu and Dauda are beating each other'

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[10]WH-questions may also have a form in which the WH-phrase is not extracted, in which case the syntactic structure and the possibility of dual interpretation is identical to that of a declarative sentence, as illustrated below.

(32') *Lami   taː ba   ku   abinci da waː?*
      Lami   3f   give 2PL food   &   who

      'Lami gave food to you and whom?'

(This sentence can be appropriate if the Questioner knows that only one other person besides the Addressee got the food.)

(34) *suna: dukan   juna   da Audu*
     3PL-prg beat   RECIP & Audu
     'he and Audu are beating each other'

In (33) is a symmetric coordination, *da Audu da Dauda*, which antecedes the reciprocal pronoun *juna*.   In (34), the discontinuous asymmetric coordination *suna:...da Audu* likewise can antecede *juna*. *D*a-phrases in asymmetric coordinate structures can also function as part of the set which is a controller for adjunct modification, as shown in (36).   Example (35) shows that the subject functions as controller of an adjunct modifier such as *agajiye* 'tired'.   Example (36) shows that the *da*-phrase of asymmetric coordination functions as part of the set of participants specified by the subject (as manifested by the preverbal plural pronoun).

(35) *Audu   ya: isa   kasuwa   a gajiye*
     Audu   3PL   arrive   market   at tiredness
     'Audu arrived at the market tired'

(36) a. *mun isa   kasuwa   a gajiye   da Audu*
       1PL arrive   market   at tiredness &   Audu
    b. *mun isa   kasuwa   da Audu a gajiye*
       1PL arrive   market   &   Audu at tiredness
     'Audu and I arrived at the market tired'

Example (36) also supports the adjunct analysis of the *da*-phrase in that the position of the *da*-phrase is free relative to the adjunct modifier, while postverbal adjunct modifiers generally follow objects, just as asymmetrically coordinate indirect objects follow direct objects as in (4).   As noted in Section 2.1.3, adjunct modification distinguishs asymmetric coordinations from comitatives, in that in comitatives, the *da*-phrase is not included in the controller, as shown in (37),

(37) *na: isa   kasuwa   da Audu   a gajiye*
     1   arrived market   &   Audu   at tiredness
     'I arrived at the market tired (and) with Audu'

while (36) shows that the *da*-phrase is included in the controller for asymmetric coordinations. In summary, asymmetric coordinations in Hausa do not seem to behave like constituents but do seem to have the status of unitary grammatical relations.

3. An Empty Category Analysis

In this section, I argue that the *da*-phrase of asymmetric coordinations does not have the distribution or behavior of a noun phrase in Hausa but rather has the distribution and behavior of an adjunct phrase. On this basis, I conclude that an empty category analysis is not appropriate for these structures.

It might seem to be initially plausible to unify the analysis of symmetric and asymmetric coordinate structures in Hausa by assuming that the structure of the overt sequence [*da* NP] in asymmetric coordination is actually a symmetric co-ordination with the *da*-phrase conjoined to an empty category, as proposed for a similar but not identical structure in Irish by McCloskey and Hale [1984] and McCloskey [1986]. This "regularizes" asymmetric coordination by making it a subtype of symmetric coordination. This hypothetical structure is shown in (38).

(38)   ... [$_{NP}$ e *da* NP] ...

Under an EC analysis, it would be this symmetric coordinate structure which would control the subject agreement of the preverbal pronoun or stand in apposition to the plural direct or indirect object pronoun. This analysis would be supported by the fact that symmetric coordination in Hausa uses the same linking morpheme *da* and by the assumption that Hausa is a pro-drop language, as argued in Tuller [1986]. This solution poses problems, however.

First, the distribution of the empty category in these constructions would not be the same as the distribution of other hypothesized empty categories in Hausa. It is true that Hausa finite clauses do not require independent nominal subjects, as shown in (39), where the pro-drop structure can still have a definite interpretation (typical of pro-drop languages). However, omission of objects is much more restricted, while no corresponding restrictions apply to object asymmetric coordination. Thus, only definite inanimate direct objects may be omitted, as shown in (40), while definite objects with dative thematic function cannot be omitted at all, as shown in (41) and (42).

(39) a. *Audu ya: ga Bala*
      Audu 3m see Bala
      'Audu saw Bala'

   b. *ya: ga Bala*
      3m see Bala
      'he saw Bala'

(40) *Audu   ya: gani*
     Audu   3m   see[-OBJ][11]
     'Audu saw it/*him'

(41) *Audu   ya: kawo   abinci*
     Audu   3M+PAST   bring   food
     'Audu brought food (to somebody/*to them)'

(42) *Audu   ya: ba   da   abinci*[12]
     Audu   3M+PAST   gave   &   food
     'Audu gave food (to somebody/*to them)'

On the other hand, asymmetric coordinate structures occur freely with direct object function only with an animate interpretation (preferably a human interpretation), as in (43),

(43) *Audu   ya: gan sù   da   Binta*
     Audu   3m   see   3PL   &   Binta
     'Audu saw them/*those things and Binta'

and they occur freely with objects of dative thematic function as shown in previous examples such as (19) and (20).

   It might be argued that subject-linked *da*-phrases occur postverbally because of the correlation claimed in Rizzi [1982] between pro-drop and postverbal subject position, but Tuller [1986] observes that overt subjects in Hausa cannot appear postverbally, as shown in (44).[13]

(44) a. **ya: je   Audu   kasuwa*
         3m-PAST   go   Audu   market

     b. **ya: je   kasuwa   Audu*
         3m-PAST   go   market   Audu

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[11]The verb *gani* 'see' is one which varies in form depending on the presence or absence of an overt postverbal direct object as well as on whether that object is pronominal or not. The form given here is the one used when no overt postverbal object is present.

[12]In (42), *da* appears before the theme *abinci* 'food' because *ba da* 'give away' is the short form of *bayar da*, a grade 5 verb. See Newman [1983] for a discussion of the syntax and semantics of grade 5 verbs.

[13]There is an "afterthought" construction in which subjects may appear at the end of a clause, but this is intonationally and functionally different from postverbal subjects in pro-drop languages.

A further distributional problem for an EC analysis occurs in the case of objects, in that nominal and pronominal objects with the same grammatical function are elsewhere in complementary distribution, and they may not cooccur in a single clause, as shown in (45) and (46). Example (45) shows that the nominal and pronominal objects cannot cooccur in the order nominal > pronominal (this is true regardless of whether the pronominal object appears in direct object form or independent form), and (46) shows that they likewise cannot occur in the reverse order.[14]

(45) *taː ga Dauda (*shi/*shiː)*
    3f see Dauda   (3m-obj/3m-IND)
    'she saw Dauda'

(46) *taː gan shi (*Dauda)*
    3f see him (*Dauda)
    'she saw him'

Under the EC analysis, it would have to be stipulated that objects may be "doubled" only in the case of asymmetric coordinations.[15] That is, a special provision would have to be made such that only if the nominal object contains a coordination with an EC, it may cooccur with the pronominal object, as in (47).

(47) *taː   gan mu da Dauda*
    3f-PAST see 1PL & Dauda
    'she saw me and Dauda'

A last point regarding the lack of NP behavior for the *da*-phrase is that if the *da*-phrase is given the analysis in (38), we might expect extraction to be impossible (a Subjacency violation, in which a conjunct is moved outside both its NP and its clause), but as seen in (26–30), extraction is possible. However, although this behavior is interesting and calls for further investigation, it does not distinguish symmetric from asymmetric coordination in Hausa and thus cannot be taken to argue specifically against the EC analysis of asymmetrical coordination, but rather calls into question the structure of coordination in general in Hausa.

The position which the *da*-phrases of asymmetric coordination occupy, after the verb and its subcategorized nominal objects, is the typical position of adjunct

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[14]In (45), the verb form *ga* indicates that the following object is nonpronominal, and in (46), the verb form *gan* indicates that the following object is pronominal.

[15]Again, it is possible to have a nominal in apposition to the pronominal object in clause-final position, as in (46), but this is usually understood to be emphatic and to support an intonation break, while a sentence with asymmetric coordination does not have such a break.

phrases in Hausa, including *da*-phrases with other functions. A sample of such phrases is given in (48–50). Example (51) shows that this is also the typical position of a locative adjunct. (See Kraft [1970] for a detailed examination of the various uses of *da*.)

(48) *yaː soke shi da wuƙa*
    3m stab 3m da knife
    'he stabbed him with a knife'

(49) *Audu yaː je gonarsa da safe*
    Audu 3m go farm-his da morning
    'Audu went to his farm in the morning'

(50) *yaː koma gida da fushi*
    3m return home da anger
    'he returned home angrily'

(51) *yaː sa tasa a kan tebur*
    3m put dish on top table
    'he put the dish on the table'

In sum, the distributional evidence presented here causes problems for an EC analysis of asymmetric coordination in Hausa in two ways: first, such an analysis entails that the *da*-phrase of asymmetric coordination would have the distribution of an NP of the corresponding grammatical relation, but it does not; and second, such an analysis would not be able to account for the adjunct-like distribution which it does have.

    There are other ways in which a regularized symmetric coordinate structure could be assumed for asymmetric coordination if multistratal syntactic analyses are considered. One of these involves a Relational Grammar-type raising analysis where plural pronoun information is registered on a dependent pronominal element even though a symmetric coordination present in one stratum is broken up by raising one conjunct (perhaps an EC or a pronoun subject to deletion) out of the coordination to take over the grammatical relation of the whole coordination in the next stratum, leaving the *da*-phrase as the "remainder". This would account for the requirement that a plural dependent pronoun must be present (the result of plural agreement with the symmetric coordination) and for the adjunct-like behavior of the *da*-phrase (which after raising has no grammatical relation status). Such an analysis has been proposed in Aissen [1988] for Tzotzil, which has structures similar but not identical to asymmetric coordinate structures in Hausa. Another alternative would be to use a Government-Binding-type movement analysis,

moving the *da*-phrase out of a grammatical relation position (to account for its adjunct position) while leaving a trace (to account for its theta-role assignment). It is not my intention in this paper to pursue a comparison between these multistratal alternatives and the monostratal one proposed in §3. (However, I argue in Schwartz [1987a] that Aissen's raising analysis is problematic for the analysis of structures in Chilean Spanish which are similar to Hausa asymmetric coordination.)

4. An Interpretive Analysis

The analysis to be presented here is a monostratal analysis in which the structure of the sequence [*da* NP] will be assumed to be that of a *da*-phrase, i.e. this sequence is just like any other *da*-phrase, accounting for its syntactic distribution. To account for the dual interpretation, this phrase will then be "thematically absorbed" by a plural pronoun, where this pronoun can be manifested as either an object pronoun in the case of sentences like (3) and (4) or as the subject marking on the pronominal element of the tense/aspect complex in the case of sentences like (2). The pronouns in these positions will be taken to be dependent arguments, and it is these which will bear grammatical relations in the clause and receive thematic roles from the verb. "Dependent argument", as used here, refers to an element with pronominal features which is not syntactically independent and which has argument status.

4.1. Evidence that the plural pronouns of asymmetric coordinations are dependent. I will first establish that the pronominal elements to which the *da*-phrase is linked in the thematic coordination interpetation are not syntactically independent.[16] Evidence for this comes from the non-separability of the pronominal element and its "host".

The pronominal elements which cross-reference subject nominals occur in preverbal position and are closely fused with aspect markers. Aspect is distinguished by vowel length and tone as well as separate clitics in some cases. A sample of these pronominal elements is given in (52) for first person forms.

(52) <u>Preverbal (subject) pronouns</u>

	1	1PL
Completive	*ná:*	*mùn*
Subjunctive	*ì n*	*mù*
Continuative	*ínà:*	*múnà:*
Future I	*zân*	*zá: mù*
Future II	*nâ:*	*mâ:*

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[16]Evidence of phonological dependence is not presented here. Such evidence is found in Newman [1979], where it is further claimed that the low tone direct object paradigm is more bound to the verb than the high tone paradigm, based on tonal evidence.

Relative Completive	*ná*	*múkà*
Relative Continuative	*nákè:*	*múkè:*
Habitual	*nákàn*	*múkàn*

There is no other morpheme which can intervene between the pronominal element and the aspect marker, even in those cases where these are separable phonologically, as in the relative continuative or habitual aspects. Tuller [1986] analyzes these preverbal elements consisting of pronominal and aspect features as INFL. In what follows, I will follow Sani [1987] and Tuller [1986] in assuming that the INFL plus VP form a syntactic unit which I will assume is I'.

One piece of evidence that object pronouns are dependent comes from the "modal particles". These words can apparently occur just about anywhere in a clause except word-internally. For example, they can separate the verb from its nominal direct object even though other constituents cannot, as shown in (53). However, they cannot separate the verb from its dependent pronominal direct object, as shown in (54).

(53) ya: *harbi dai Binta*   'indeed, he shot Binta'
     3m shot   PRT Binta

(54) a. *ya: harbi (*dai) ta*   'indeed, he shot her'
        3m   shot   (PRT)   3f

     b. *ya: harbi dai   ita*   idem
        3m   shot   PRT 3f-IND

Although it is possible to express the meaning of a sentence like (54) by using the independent pronoun rather than the direct object form, as shown in (54b), the point is that the object form of the pronoun cannot be separated from the verb by any other morpheme. The non-occurrence of the modal particles between verb and object pronoun supports an analysis in which the direct object form of the pronoun is syntactically dependent on the verb.

Another piece of evidence that pronominal direct objects are more closely bound to the verb than nominal objects, brought to my attention by Paul Newman, has to do with the placement of the discontinuous negation marker *ba...ba*. In sentential negation in Standard Hausa, the first negative element appears before the preverbal pronoun and the last appears at the end of the clause. However, many speakers also allow the second negative element to appear earlier in the verb phrase. If the pronominal direct object were bound to the verb but the nominal direct object were not, we might expect that the second negative element could appear between the verb and its nominal direct object, as shown in (55), but that it would appear only

after the verb and its pronominal direct object, as shown in (56). This is exactly what occurs.

(55) *bai   kama ba   doki*   'he didn't catch the horse'
     NEG+3m catch NEG horse

(56) a. *bai   kama shi ba*   'he didn't catch it'
        NEG+3m catch 3m NEG

   b. **bai kama ba shi*

As noted earlier, indirect objects immediately follow the verb and are preceded by a marker *ma* for pronouns and *wa* for nouns.[17] The pronominal forms used for indirect object are the same as the bound possessive pronouns except for the first person singular and plural forms. They are written as a single word with *ma* and are inseparable from it, unlike the nominal indirect objects, which may appear in topic position with *wa* occurring postverbally, as shown in (57–62). Example (58) shows that *wa* cannot be separated from the verb but its nominal object can, as shown in (59).[18] The parallel examples with pronominal indirect objects in (61) and (62) show that neither *ma* nor its pronominal object can appear separated from the verb.

(57) *Audu ya: kawo wa   Dauda abinci*
     Audu 3m bring IOM Dauda food
     'Audu brought food to Dauda'

(58) **wa   Dauda ne   Audu ya   kawo abinci*
     IOM Dauda FOC Audu 3m+rc bring food

(59) *Dauda ne   Audu ya   kawo wa   abinci*
     Dauda FOC Audu 3m+rc bring IOM food
     'it was Dauda that Audu brought food to'

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[17]These different forms most likely reflect distinct historical origins of these markers. See Newman [1982] for one interpretation of their origins.

[18]Paul Newman has pointed out to me that in the Guddiri dialect, *wà* + N appears to the right of the direct object, i.e. is separable from the verb, while *ma* + pronoun appears immediately after the verb as in Standard Hausa. This further supports the dependent analysis of the object pronouns in this dialect.

(60) *Bala ya: fada masa   labari*
     Bala 3m tell IOM+3m story
     'Bala told him the story'

(61) **masa   ne   Bala ya   fada labari*
     IOM+3m FOC Bala 3m+rc tell news

(62) **sa   ne Bala ya fada ma labari*
     3(IOM)

There is another form of (62) which is grammatical. In this form, the independent pronoun is used in place of the bound direct object pronoun, and the pronominal indirect object marker is replaced with the nominal direct object marker, as shown in (63).

(63) *shi: ne   Bala ya   fada wa   labari*
     3m-IND FOC Bala 3m+rc tell DAT story
        'it was him that Bala told the story to'

However, there is no corresponding non-focussed version of this sentence with the nominal indirect object marker and the free pronoun, as shown by the un-grammaticality of (64).

(64) **Bala ya: fada wa   shi: labari*
     Bala 3m tell DAT 3m-IND story

Whatever the analysis of structures like (63) may be, there are no grammatical structures in which the pronominal indirect object marker is separated from the verb and none in which the pronominal indirect object is separated from its indirect object marker.

Tuller [1984] also shows that the nominal indirect object but not the pronominal indirect object can be separated from the verb and indirect object marker by a modal particle, as shown in (65-66), adapted from Tuller [1984:449].

(65) *bai   fada wa   fa   matarsa   ba*
     NEG+3m+PAST speak IOM PRT woman+3POSS NEG
     'indeed, he didn't speak to his wife'

(66) *bai   fada ma   *fa   ta   ba*
     NEG+3m speak DAT PRT 3f   NEG
     'indeed, he didn't speak to her'

(67) *bai   fad'a *fa   mata   ba*
     NEG+3m speak PRT   DAT-3f NEG
     'indeed, he didn't speak to her'

It remains to be demonstrated that pronoun forms from the independent paradigm are separable from tense/aspect, verb and indirect object marker. This evidence is given in (68-72), using evidence from extraction structures and modal particles.[19]

(68) *ita   ce   ta   je   kasuwa*
     3f+IND FOC 3f+rc go   market
     'it was she who went to the market'

(69) *ita   fa   ta: je   kasuwa*
     3f+IND PRT 3f   go   market
     'indeed, she went to the market'

(70) *su: ne   ya   kawo wa   Binta*
     3PL FOC 3m+rc bring IOM Binta
     'it was them that he brought to Binta'

(71) *ya: kawo wa   Binta fa   su:*
     3m bring IOM Binta PRT 3PL+IND
     'indeed, he brought them to Binta'

(72) *ita   ce   ya   kawo wa   abinci*
     3f+IND FOC 3m+rc bring IOM food
     'it was her that he brought food'

To summarize, there is evidence from the non-interruptability of pronoun-host sequences that pronouns from the preverbal paradigms and from both object paradigms are syntactically dependent. In the case of the direct object pronouns, it would seem plausible to assume that they are verbal clitics, and I will do so. I will also assume that the unit formed by the indirect object marker *ma* and the dependent possessive pronouns which mark indirect object is syntactically dependent on the verb . Lastly, following Tuller [1986], I will assume that the dependent pronominal

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[19]The modal particle placement parallel to (72) is not grammatical:

(i)   *ya: kawo wa fa ita abinci*

I assume that the explanation for this is the same as that for the ungrammaticality of (64).

element corresponding to subject is part of INFL, an independent inflectional element containing tense/aspect features as well as the pronominal subject argument features. Representing the pronominal elements now as ARG, for argument, I am assuming a structure like that in (73), ignoring for the moment nominal subject position.

(73) $[_{I'}[_{INFL}$ TENSE/ASPECT, ARG] $[_{V'}[_V$ V, (ARG)] ... *da* NP]]]

INFL and V can each take only one dependent ARG. ARG is optional in V, allowing thereby intransitive as well as transitive verbs. When an indirect object is present and adjacent to the verb, the direct object pronoun is from the independent paradigm and is not a dependent argument.

4.2. The structural configuration of asymmetric coordination. In Schwartz [1987b] I argue that cross-linguistically, the linking morphemes in asymmetric coordinations, such as Hausa *da*, are preposition-like in that they are case-assigners which function to sanction the presence of an NP in the syntactic structure but that they are unlike true or semantic prepositions in that they do not assign a thematic role to their objects. Rather, the thematic role of their objects must be determined by the thematic roles associated with the verb, the nature of the NP object, and the pragmatics of the event. For example, *da wuƙa* 'with a knife' will most likely have an instrumental role because of the referent of the word *wuƙa* 'knife' and the presence of a verb which is compatible with a knife having an instrumental role in the event expressed by its clause; *da safe* 'in the morning' will most likely be interpreted as a temporal expression because of the nature of the word *safe* 'morning' and the compatibility of such an interpretation with the event expressed in the clause; *da fushi* 'angrily' will most likely be interpreted as a manner expression because of the nature of the word *fushi* 'anger' and the expression of a compatible event in the clause; *da Binta* 'with Binta' will most likely be interpreted as a comitative or as a member of an asymmetric coordination (or both interpetations will be possible) depending on the potential roles that the participant referred to by the name *Binta* can play in the event expressed in the clause and on the presence or absence of a plural pronoun in the appropriate structural configuration.

It is now possible to identify the appropriate structural configuration for the interpretation of a *da*-phrase as a member of a thematic coordination corresponding to a given grammatical function. A preliminary version of the interpretive rule is given in (74).

(74)   Given the configuration $[_{X'}[_X$ ... ARG[PL]], ... *da* NP], optionally absorb the features of NP into the feature set specified in ARG[PL].

The spirit of what (74) expresses is that a *da*-phrase can be semantically combined with, or incorporated into, a plural argument internal to the head of the phrase to which the *da*-phrase belongs. Since in the structure given in (73) there are potentially two dependent ARGs, both dependent on the heads of phrases to which the *da*-phrase belongs, this should entail that if both are present, i.e. if there is an object pronoun as well as the preverbal pronoun present in the clause, the *da*-phrase should be able to be incorporated into either of them.[20] This is correct: when that configuration occurs, either interpretation is possible. Thus, sentences in which both the subject and object are ARGs, the dual thematic coordination interpetation may be with either, as shown in (75) and (76).

(75) *sun   gan mù da Binta*
     3PL+PAST see 1PL & Binta
     i. 'they saw me and Binta'
     ii. 'he and Binta saw us'

(76) *sun   fada mana   labari da Binta*
     3PL+PAST tell   to+1PL story & Binta
     i. 'they told the story to me and Binta'
     ii. 'he and Binta told the story to us'

Using the INFL Phrase analysis of the clause in Hausa, I will assume here that the independent subject pronouns of Hausa are in SPEC position of IP (sister to I'), as shown in (77).[21]

(77) $[_{IP}$ pro-IND $[_{I'}$ INFL $[_{V'}$ V...$]$ $]$ $]$

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[20]Note that this entailment is correct no matter whether the *da*-NP is in VP or not when it is absorbed into INFL. That is, this analysis is neutral between placing the *da*-NP which is part of a subject asymmetric coordination in adjunct position, as in (i), or within the VP, as in (ii).

(i) $[_{I'}$ ... $[_{VP}$ ... $]$ ... *da* NP ... $]$

(ii) $[_{I'}$ ... $[_{VP}$ ... *da* NP $]$ ... $]$

[21]The independent pronouns functioning as subject can be demonstrated to not be in Focus position, since their presence doesn't automatically require the relative verb forms. It remains to be demonstrated that they are not necessarily in Topic position. The analysis presented here crucially depends on the assumption that the independent pronouns in these structures are subjects, and it would have to be changed if they were demonstrated not to be subjects. An alternative analysis, suggested to me by Russ Schuh and based on the Topic assumption, is that the sequence [*da* NP] cannot unify with a NP in a non-argument position. This would depend on a different definition of the notion "argument position" than that used in a standard GB analysis, since in my analysis dependent arguments would have to count as being in an "argument position", given that I am not assuming here an incorporation, i.e. movement, analysis as in Baker [1988].

Under this assumption, the statement in (74) also entails that asymmetric coordinations should not be incorporated directly into the independent pronouns in Hausa. This is because the independent pronouns do not satisfy the structural condition for incorporation: they are not dependent on the head of a projection of which *da*-NP is a member. This entailment is also correct. Consider (78). Here, the independent pronoun appears and the crucial dual interpretation is not possible. Rather, in such cases there is only a compositional interpretation, with at least three members in the set.

(78) *mu:*   *mun je kasuwa da shi:*
     1PL-IND 1PL go market & 3m
     'we and he went to the market/we went to the market with him'

Some confirmation for the interpretive rule proposed in (74) comes from the contrast between (78) and (79).

(79) *mu:*   *da shi:*   *mun je kasuwa*
     1PL-IND & 3-IND 1PL go market
     i. 'he and I went to the market'
     ii. 'we and he went to the market'

In (79), as opposed to (78), the right structural configuration obtains for feature absorption and therefore for the dual interpretation if it is assumed that *mu: da shi:* is analyzed as in (80), where the independent pronoun is the head of an N-projection including the *da*-phrase, thus allowing absorption.

(80) [$_{NP}$[$_N$ ARG, X] *da* NP]

The analysis of [pro-IND *da* NP] as an NP constituent is justified on the basis of distributional evidence: such sequences occur in NP positions, e.g. in subject position, as heads of relative clauses, etc.[22]
    However, structures like (79) (and corresponding structures with object pronouns) were not consistently permitted to have a dual interpretation by my Hausa consultants.[23] Both accepted the dual interpretation for some structures of this type

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[22]They can also be referred to anaphorically, e.g. by relative pronouns. However, the anaphoric evidence cannot be used to justify syntactic constituent status in the analysis presented here, because anaphoric interpretation is assumed to be a semantic relation rather than a syntactic one. Recall that the rule of thematic absorption would provide the appropriate semantics for this relation.
[23]The lack of consistency in this case is striking in light of the very clear and consistent judgements given by both consultants on all other structures investigated. In fact, in all of the languages for

but rejected it for others, even with verbs, tense/aspect and participants held constant. Dr. Ismail tended to accept the dual interpretation more than he rejected it, while Dr. Sani tended to reject it more than he accepted it. This variation deserves a fuller investigation, but I would tentatively suggest at this point that a plausible hypothesis to account for variation here may have to do with the fact that the plural pronoun in this structure is from the independent paradigm and is itself the head of the construction rather than a syntactic dependent of a functionally distinct head. It is thus not structurally identical to the other cases where the dual interpretation is consistently possible. It may be that the similarities and differences between the structure in (80) and the typical asymmetric coordination structures represented in (73) are a source of variation in judgement about whether the dual interpretation is possible for structures like (80).

The analysis presented here gives a single, unified account of the dual interpretation of asymmetric coordinations in Hausa by identifying a dependent plural argument into which a *da*-phrase can be incorporated semantically. This accounts for its behavior as a controller in functional control structures, under the assumption that control is a semantic relation. Since the *da*-phrase is not syntactically represented as part of a coordination, its syntactic distribution (that is, the distribution of an adjunct *da*-phrase) is also compatible with this analysis.

5. Remaining Issues

The analysis presented thus far raises two serious questions which need to be addressed. First, as stated, it accounts for why the *da*-phrase doesn't combine directly with the independent pronominal argument *muː* in a sentence like (78), because *muː* isn't an argument dependent on the head of a projection (in the sense of dependency used here) of which *da*-NP is a member, but it doesn't yet account for why a coreference relation betweeen *muː* and the *da*–phrase cannot be established indirectly on the basis of the fact that in other cases, overt subjects are interpreted as being coreferential with the ARG which is in INFL, as shown in (81).

(81) *Audu yaː je kasuwa*
     Audu 3m go market
    'Audu went to the market'

That is, given the schema in (82), it doesn't account for why the NP of the *da*-phrase cannot be incorporated into ARG_i, which in turn is coindexed with or otherwise interpreted as corefential to pro-IND_i.

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which I have investigated similar constructions, judgements in general are very clear and consistent.

(82) $[_{IP}$ pro-IND$_i$ $[_{I'}[_{INFL}$ ARG$_i$, X]...*da* NP]]

Second, it also does not yet account for the dual thematic coordination inter-
pretation of a sentence like (83) and other corresponding examples with other
grammatical relations, such as those in (26-30).

(83) [*da Audu kam* [$_{I'}$ *mun je   kasuwa*]]
         &   Audu TOP   1PL go market
         'as for Audu, he and I went to the market'
         (lit: with Audu, we went to the market)

Here, the condition given in (74) is not satisfied, because the *da*-phrase is not in the
projection containing the relevant plural ARG, and yet the dual interpretation is
possible. The two problems which have to be resolved, then, are why a dual
interpretation is possible when the *da*-phrase is outside of its clause and why it is not
possible when the *da*-phrase is in its clause but an overt subject pronoun is present.

5.1. Thematic absorption as unification.   I turn now to the first problem,
how to avoid the dual interpretation of a clause containing a *da*-phrase when that
clause has an overt independent pronoun which shares its thematic and grammatical
relation with the *da*-NP. To deal with this problem, an account of Subject-INFL
cross-reference must be provided, as well as a more explicit account of what it
means to say that the features of the NP in the *da*-phrase are absorbed into the
features of a plural argument dependent on the head of a projection.

5.1.1. Pronoun features.   Both of the phenomena to be investigated in this
section refer to pronominal information, so the first step is to specify how I assume
this information to be structured. I will assume that Hausa pronouns have the
feature composition given in (84), illustrated with examples from the independent
paradigm.

(84) <u>Hausa pronominal features</u>

	Singular		Plural	
first person	1	*niː*	$1 \wedge (\sim 1)^*$	*muː*
second person	2, MASC	*kai*	$2 \wedge (\sim 1)^*$	*kuː*
	2, FEM	*keː*		
third person	3, MASC	*shiː*	$3 \wedge (\sim 1)^*$	*suː*
	3, FEM	*ita*		

As can be seen in (84), I assume that expressions which are first person plural signify sets of individuals one of whom is Speaker and one (or more) of whom are not. Likewise, I assume that expressions which are second person plural signify sets of individuals one of whom is Addressee and the other (or others) of whom is not Speaker (it is left open as to whether the other members of the set specified by second person plural are Addressees or not). Finally, I assume that expressions which are third person plural signify sets of individuals of which all members are neither Speaker nor Addressee.

5.1.2. Thematic absorption. In order for the NP of the *da*-phrase to combine with ARG and yield a dual interpretation, the absorption operation will replace the feature specification $[(m)^*]$ (where n = 1,2, or 3 and m = $(\sim 1)^*$ or $(3)^*$) with the more specific features and feature values of the NP—represented here $[F_{NP}]$, as shown in (85)—yielding $[n \wedge [F_{NP}]]$ as the semantic interpretation of ARG. In (14), repeated here as (86a), the product of the absorption operation is shown in (86b).

(85) $[[n \wedge (m)^*] \ldots da \, [F_{NP}]] = [n \wedge [F_{NP}]]$

(86) a. *mun je kasuwa da shiː*
         1PL go market & 3m
         'he and I went to the market'

     b. $[[1 \wedge (\sim 1)^*] \ldots da \, [F_{Audu}]] = [1 \wedge [F_{Audu}]]$

The process which I have termed "absorption" is more formally characterized as "unification" in the sense of Shieber [1986]. Unification combines feature values

from two sets and selects the most specific feature value for any feature shared by the sets (see Shieber [1986] and Pollard and Sag [1987] for a more formal characterization of unification). The operation of unification fails if the sets contain contradictory feature values. The feature values for any NP other than first person are an extension of the feature value "non-first person", allowing for a unification in which "non-first person" is replaced by the more specific feature values corresponding to the NP of the *da*-phrase. The operation of thematic absorption given in (74) can now be stated as in (87).

(87) <u>Thematic absorption</u>

Given the configuration $[_{X'} [_X ... ARG[n \wedge (m)*] ...] ... da$ NP], unify the features of NP and ARG.

5.1.3. Subject-INFL agreement. I assume that it is feature value compatibility[24] which characterizes well-formed agreement, so that in a sentence like (88), INFL may be said to agree with the subject pronoun in that both carry the relevant agreement features, and these feature values are compatible.

(88) *muː mun je Kano*   'we went to Kano'
      1PL 1PL go Kano

This can also be considered to be an operation of unification, which unifies the features of an independent subject NP and those of the pronominal features in INFL. The unification fails, and the agreement relation is not satisfied, if the independent subject NP and ARG in INFL contain contradictory feature values, e.g. if the subject were *yarinya* 'girl' which has the gender feature value FEMININE and INFL were *yaː* 'he' which has the gender feature value MASCULINE. Subject-INFL agreement can be stated as in (89).

(89) <u>Subject-INFL agreement</u>

Given the configuration $[_{IP}$ NP $[_{I'} [_I$ X, $[F_{PRO}] ...]]$, unify NP and $[F_{PRO}]$.

Although thematic absorption of the *da*-phrase in asymmetric coordination and subject-INFL agreement are both operations which unify features of an NP and an ARG into a single set, they are not identical operations. Thematic absorption is optional, requires that ARG have the feature value schema [n ∧ (m)*], and is not limited to a single grammatical relation but rather can occur with any grammatical

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[24]See Barlow [1988] for a discussion of why compatibility rather than matching of features is preferable.

relation expressible as a dependent ARG, i.e. subject, direct object, indirect object. Subject-INFL agreement is obligatory, is not limited in the feature value for NUMBER, but can apply only to pronominal features in INFL. It remains now to ensure that both unifications cannot apply to a structure like (78), repeated here as (90).

(90) *muː   mun je kasuwa da shiː*
     1PL-IND 1PL go market & 3m
     'we and he went to the market/we went to the market with him'

Given the operations as they are outlined above, they must be mutually exclusive because the pronominal features in INFL are functionally distinct in the two structures. I have assumed in the discussion so far that these pronominal features, as relevant to Thematic Absorption, function semantically as an argument of the predicate of the clause in which they appear (this was part of the definition of "dependent argument"). However, in the presence of an overt subject, I would claim that they do not have argument status; rather, there is evidence that in Hausa, like in Chichewa as analyzed in Bresnan and Mchombo [1987], object pronominal features consistently function as dependent arguments while subject pronominal features in INFL are dependent arguments when an independent subject NP is absent but agreement features when an independent subject is present. One piece of evidence to support this analysis is the asymmetry in the distribution of independent NPs between subject and object. Dependent object arguments never cooccur with coreferent independent NP objects in simple sentences, while independent subject NPs and subject pronominal features can always cooccur, as illustrated in (91) and (92).[25]

(91) a. *taː je kasuwa*   'she went to the market'
       3f go market

    b. **Binta je kasuwa*
       Binta go market

    c. *Binta taː je kasuwa*   'Binta went to the market'
       Binta 3f go market

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[25]They need not cooccur in all aspects, however, as illustrated in (i) and (ii) [Abraham 1959:9].

(i) *Musa yana   zuwa*   'Musa is coming'
   Musa 3m+PROG come

(ii) *Musa na   zuwa*   'Musa is coming'
    Musa PROG come

(92) a. *ya: gan tà*   'he saw her'
       3m see 3f

   b. *ya: ga Binta*   'he saw Binta'
       3m see Binta

   c. **ya: gan tà Binta*

Thus, the reason why there is no dual interpretation in (90) is because Thematic Absorption cannot apply since the pronominal features in INFL are agreement features rather than a dependent argument, and Thematic Absorption as stated in (87) applies only to ARG.

    The question of how comitatives marked by *da* fit into the picture remains to be answered. I won't address that issue here, but I'd like to state briefly the direction that I intend to take. I will assume that the conceptual link between asymmetric coordinations and comitatives in Hausa and crosslinguistically is that comitative constructions, as well as other uses of linking elements like Hausa *da*, link an adjunct argument to a clause, and the role of this adjunct argument is pragmatically determined, while *da* in its function in asymmetric coordination links an NP to an argument position of the predicate rather than to the clause.

5.2. Thematic linking of displaced NP's. I will now turn to an examination of the problem of why a dual interpetation is possible when the sequence [*da*-NP] is outside of its clause. Current syntactic frameworks all assume that displaced topic or focus constituents such as those in (83) and (26-30), i.e. NP's in non-argument positions, will be linked to an argument position in the argument structure of a clause. This is done so that each noun phrase have an associated thematic relation, the assumption being that thematic relations are determined by the argument structure of clauses, requiring that all NP's be somehow linked to argument positions. However, I will not assume here that any syntactic mechanism is necessary to achieve this purpose. Rather, I suggest that the interpretive rule in (93) will suffice.

(93)   An NP marked by *da* in a non-argument position is interpreted as a member of any pragmatically compatible clause.

This is possibly too restrictive given the variable judgements regarding NP-internal *da*-phrases, but at present I will leave it in this form. Thus, a *da*-phrase in an extraction structure will be linked semantically/pragmatically to a compatible clause (a clause in which a thematic role is available for the argument of the *da*-phrase). This condition may be satisfied in several ways: (i) *da*-NP may be analyzed by (87) as the *da*-NP relevant for unification when a head-dependent plural

ARG is present in the "candidate' clause; or (ii) it may be pragmatically interpreted as an adjunct in any compatible "candidate" clause. An implication of this is that a *da*-NP in a non-argument position which is interpreted by (93) as a member of a clause with more than one dependent plural ARG should be ambiguous, as is the case for *da*-NP's within a clause with more than one dependent plural ARG (see (75) and (76)). This implication is correct, as shown in (94) and (95).

(94) *da Binta ne   suka   gan mù*
     &   Binta FOC 3PL-rp see 1PL
     i. 'he and BINTA saw us'
     ii. 'they saw me and BINTA'

(95) *da Binta kam sun gan mù*
     &   Binta TOP 3PL see 1PL

     i. 'as for Binta$_i$, he and she$_i$ saw us'
     ii. 'as for Binta$_i$, they saw me and her$_i$'

6. Symmetric Coordination and Asymmetric Coordination

We may now assume that *da* has a lexical specification incorporating the analysis proposed here. It is specified as being a *unification operator* under the condition that the head of a projection to which it is syntactically linked contain a plural ARG. The *da*-phrase thus shares in the thematic role of the plural ARG and functions as part of this argument in control structures such as reciprocal constructions and those with adjunct modifiers. It is also true, however, that in symmetric coordination , the *da*-phrase shares the thematic role of another NP in an argument position. The difference here is that the semantics of these constructions are compositional. I therefore propose that for these constructions, *da* is an *operator of set union*, not unification. In set union, the members specified in both sets are simply added together with no requirement of feature compatibility, so that, for example, in a phrase like that in (96a), the set union would be as in (96b).

(96) a. *(da) ni: (...) da shi:*

    b. $\{\{1\} \wedge \{3\}\}$

Similarly, the set union of (97a) would be that in (97b),

(97) a. *mun ... da shiː*

    b. $\{\{1 \wedge (\sim 1^*)\} \wedge \{3\}\}$

which is the ordinary compositional plural interpretation which Hausa and English both share for these constructions. What I would like to suggest, then, is that all languages with symmetric NP constitutent coordination have NP linkers which are *set union operators*.[26] On the other hand, a subset of languages, like Hausa, Russian, Chilean Spanish, and others, have NP linkers which are *set unification operators*. In fact, in Hausa, a single morpheme *da* serves both purposes.[27] It isn't surprising that a single morpheme should have the three functions of comitativity, set union, and set unification. Conceptually, all involve addition: comitativity adds an argument to a clause where no argument is otherwise required by the argument structure of the predicate (though the predicate must be able to accommodate the added argument in a pragmatic sense); symmetric coordination (set union) adds individuals together to form a set in an argument position; and asymmetric coordination (set unification) adds a further specification to the information structure of the set of participants occupying an argument position.

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[26]This proposal is made independently in Bond [1988].

[27]However, in other languages like Russian and Chilean Spanish, these are distinct and correspond to 'and' and 'with' constructions, where 'and' is an operator of union while 'with' is an operator of unification (as well as comitativity).

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MORPHOLOGICALLY BASED AGREEMENT IN SWAHILI[*]

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In this paper we argue that to a great extent noun class agreement in Swahili is based on inflectional features. Yet where inflectional features are not present, a derivational feature of inherent noun class controls agreement. Swahili, then, is seen as having a dual noun class system in which agreement is controlled by a hierarchical set of features ranging from inflectional to derivational. The evidence from Swahili indicates that Anderson's [1982] claim that inflectional morphology alone is relevant to syntax may be too strong and supports a weaker version admitting some interaction of derivational morphology with syntax.

1. Introduction

Anderson [1982] proposed a principled distinction between inflectional and derivational morphology. His claim is that inflectional morphology alone is relevant to syntax. In this paper, we test this claim against facts provided by Swahili noun class affiliation and patterns of agreement. We provide evidence for a dual noun class system in Swahili and a hierarchical set of features that determine agreement. In face of this evidence, we find that Anderson's criterion is too strong. We do, however, support a weaker version of it that allows for some interaction between syntax and derivational morphology.

In the first section, we provide arguments for a bifurcated noun class system composed of nouns that affiliate with noun classes inherently and those which do so non-inherently. We then examine the relevance of noun class to agreement. We conclude that agreement is based on inflectional features. When these features are

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not present, agreement is carried out based on the derivational feature of inherent noun class.

2. The Swahili Noun Class System

Traditional Swahili grammarians like Ashton [1947] depict the noun class system in Swahili as composed of approximately sixteen individual classes. Membership in a particular noun class is often indicated by the presence of a prefix characteristic of that class.

(1) *m -tu*   *vi -tunguu*   *u -zuri*   *ku -fanya*
     c.1   c.8   c.14   c.15
     person   onions   goodness   to do,doing

In the examples above, the prefixes are all indicative of the class to which these nouns belong. The word *mtu* is like other words in its class in that it refers to humans, and it takes the prefix *m-*.

(2) *m -swahili*   *m -kurugenzi*   *m -toto*   *m -gonjwa*
     c.1   c.1   c.1   c.1
     Swahili person   boss   child   sick person

Nouns in Swahili will also have their noun classes reflected on the modifying elements in the sentence. There are two types of agreement prefixes realized on these modifiers. An adjectival prefix occurs on attributive adjectives and is identical to the characteristic prefix of the noun class. A pronominal prefix is identical to the noun class prefix in only half of the sixteen noun classes, and it is realized on possessive particles and pronouns, demonstrative pronouns, and verbs. A full table can be found in the **Appendix**.

(3) *mi   -ti*   *mi   -kubwa*   *hi   -i*   *y   -a*   *mwitu*
     c.4   nom   a.a, c.4 adj   dem,prox   p.a.,c.4   p.a.,c.4 poss
     trees   big   these   of   forest

     i   -li   *-anguka jana*
     p.a.,c.4   tense,past   V
                            fall   yesterday

‘these big trees of the forest fell yesterday’

In this example, "a.a." stands for *adjectival agreement* and "p.a." stands for *pronominal agreement*. Class 4 is one of the noun classes where the adjectival prefix and the pronominal prefix are different.

Most pedagogical texts and some theoretical works assume that agreement in Swahili is based upon the noun class of the head noun (cf., for example, Gregersen [1967]). There are various exceptions to this noun class based agreement. We will explore these exceptions below.

Diachronically, this noun class system is believed to have been semantically defined. In the synchronic grammar, this semantic cohesion is no longer evident. There are, however, some semantic sub-groups within each noun class (cf. Ashton [1947]). Zawawi [1979] rejects the traditional criteria of noun class and instead proposes a system based on a more limited set of semantically-defined "nominal indicators". These indicators correspond to a subset of the traditional prefixes. Below is her proposed system.

(4) <u>Form</u>   <u>Function</u>

    m-   Indicates substance of life singular.

    u-   Indicates substance of abstractness and singularity.

    Ø, *n-*   Substance is not specified, a catch-all.

    ki-   Indicates comparison of size or manner; singular may refer to person, animal, thing, or place.

    ji-   Indicates intensification in substance or action; it is unmarked and therefore co-occurs with any nominal.

    ba-   Indicates intensification; a marked form refers only to large.

    ma-   Indicates a plural substance of unmarked or unspecified stems.

    wa-   Indicates a plural number of substance which is marked for life in animals.

    mi-   Indicates a plural number of substance which is marked for life in plants and trees or those inanimate singulars which co-occur with the prefix *m-*.

    vi-   Indicates a plural number of substance marked for comparison of size and manner

A distinction can be seen within some of these groupings. For example, in the group represented by the nominal indicator *ki-*, the notion "comparison of size or manner" indicates a group of nouns in Swahili that are usually made diminutive or refer to manner when they take the *ki-* indicator. The second function in the *ki-* group is to delimit a singular that may refer to a person, animal, thing, or place. It seems that any concrete noun fits into this category. It really does not capture a function at all in Swahili.

(5) *kitu*   'thing'
    chakula   'food'
    kitabu   'book'
    kioo   'mirror'
    kiosho   'act of washing'

There is nothing in the meanings of these words that indicates anything about a comparison of size or manner. There is no semantic bond that renders the list in (5) a group. These nouns do, however, take the same set of agreement markers on their modifiers.

(6) *ki -tabu hi -ki ch -a   Ali ki   -li   -anguka*
    c.7 N   dem c.7 c.7 poss   c.7,s.a. T,past V
    book   this   of   fall
    'this book of Ali's fell'

(7) *ch -akula ki -le ki   -li   -pik -w   -a naye*
    c.7 N   c.7 dem c.7,s.a. T,past V   passive
    food   that   cook   by her/him
    'that food was cooked by her/him'

Zawawi notes that the *ki-* group of nominals can be singular people, animals, things, or places. In this definition there is no semantic restriction at all since there are people, animals, things, and places that affiliate with other classes as well. On the other hand, the nouns in this group that refer to a comparison of size or manner are semantically defined.[1]

(8) *kitoto hiki kizuri*   'this little child is good'
    kikoba hiki kizuri   'this little bag is good'
    kikombe hiki kizuri   'this cup is good'
    kifagio hiki kizuri   'this little broom is good'
    kigudulia hiki kizuri   'this little water jar is good'
    kisanduku hiki kizuri   'this little suitcase is good'

Note that in (8), all of the sentences but one, the one with *kikombe*, refer to the small size of the object. Corresponding to each of these diminutive nouns are nouns from other classes that refer to the same objects of normal size.

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[1]The following examples are from Zawawi [1979].

(9) *mtoto huyu mzuri*   'this child is good'
     mkoba huu mzuri   'this bag is good'
     fagio hili zuri   'this broom is good'
     gudulia hili zuri   'this water jar is good'
     sanduku hili zuri   'this suitcase is good'

The one noun in (8) that is not dimunitive can be made so with the intensifier *-ji-*.

(10) *ki -ji -kombe*   'a/the small cup'

This intensifier distinguishes an inherently class 7 form from its diminutive.

In each of the nominal categories in (4), there are nouns that correspond to the function listed but there are other nouns which are exceptions to the delimiting functions. Moreover, there is no delimiting function in one case, the *n-* case.

Some of the semantically defined functions that Zawawi lists are composed of nouns that have corresponding nominals in other classes. These are listed in (11).

(11) <u>Form</u>   <u>Function</u>

     u-   Indicates substance of abstractness and singularity.

     utoto   'childhood'   *mtoto*   'child'
     uzee   'old age'   *mzee*   'old person'
     ushamba   'rural'   *shamba*   'farm'
     uongozi   'leadership'   *kiongozi*   'leader'

     ki-   Indicates comparison of size or manner.
     Cf. (8) and (9).

     ji-[2]   Indicates intensification in substance or action.

     toto   'large child'   *mtoto*   'child'
     jitu   'giant'   *mtu*   'person'
     jumba   'large building'   *nyumba*   'house'
     goma   'large drum'   *ngoma*   'drum'
     jito   'big river'   *mto*   'river'
     jisanduku   'big suitcase'   *sanduku*   'suitcase'

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[2]The noun class prefix or nominal indicator, *ji-*, only appears before monosyllabic or vowel initial roots/stems.

ma-		Indicates a plural substance of unmarked or unspecified stems.		
makombe	'large dishes'	*vikombe*	'cups'
mabuzi	'large goats'	*mbuzi*	'goat/s'
madege	'large birds'	*ndege*	'bird/s'
matabu	'big books'	*vitabu*	'books'

vi-		Indicates a plural number of substance marked for comparison of size or manner.		
vitoto	'small children'	*watoto*	'children'
vikoba	'small bags'	*mikoba*	'bags'
vijikombe	'small cups'	*vikombe*	'cups'
vifagio	'small brooms'	*mafagio*	'brooms'
vigudulia	'small water jars'	*magudulia*	'water jars'

Note that in all cases the nouns that are semantically predictable are those that belong to a subset of one of Zawawi's functions. The nouns to which they correspond, in the right columns, are not affiliated with their class markers in any semantically transparent way.

It is obvious, then, that a subset of functions that Zawawi recognizes are functions that are applied to already existing nouns in the system. Their meanings are predictable and they delimit the meaning existing in these other nouns. Based on this distinction, we will henceforth call the nouns that correspond to the functions above "non-inherent nouns", since they have a marked affiliation in the system already. The nouns to which the functions are applied we will refer to as "inherent nouns", since belonging to the class to which they do must be a stated, inherent feature of the root or stem involved. In the discussion that follows, we will focus our attention on the non-inherent class of diminutives and adverbials.

In at least one case, there is phonological motivation for this morphological distinction. Looking again at the non-inherent *ki-* nouns, we find that these prefixes are not subject to the palatalization that the inherent nominal prefixes are.

(12) Inherent Nouns   Non-inherent Nouns
      chakula   *kiakula   *kialimu*   *chalimu
      'food'   'small teacher'

      chuma   *kiuma   *kiunguja*   *chunguja
      'piece of iron'   'Swahili dialect of Zanzibar'

cheti	**kieti*	*kiembe*	**chembe*
'piece of paper'		'small mango'	
chombo	**kiombo*	*kiomo*	**chomo*
'tool, implement'		'small bow of a ship'	

This is not to say that inherent noun stems that begin with a vowel will always realize a palatalized *ki-* prefix, but we are not aware of any diminutive nouns that take a palatalized prefix.

Based on the functions discussed by Zawawi, we find that there is evidence that noun class affiliation in Swahili is of two types: inherent affiliation, in which a prefix and a stem are paired together to form a nominal that is not semantically decomposable, and non-inherent affiliation, in which such a pairing is semantically transparent. We may now ask if this morphological distinction is related in any way to derivational and inflectional morphology.

3. Inflectional Morphology

The traditional criteria for distinguishing inflection from derivation are informal and unreliable. Anderson [1982] provides counterexamples to each traditional criterion, and he goes on to argue for a more principled distinction. He proposes the following:

(13) Inflectional morphology is what is relevant to syntax.

Anderson assumes that agreement is a syntactic process.

It is assumed in the literature that noun class determines agreement in Swahili. Gregersen [1967:9, ex. 24b], for example, proposes that agreement in Swahili is accomplished by means of a transformational copying of the noun class prefix onto the modifiers:

(14) A *P - N - X ⇒ A *P - N - A - X

In (14), A indicates the left-most prefix, *P represents any number of following prefixes, N is the head noun, and X is the modifying element. This rule captures the alliterative copying of the noun class prefix which is restricted in the agreement system in Swahili but predominant in other Bantu languages. Initially, there does not seem to be any distinction between inherent and non-inherent noun with respect to agreement. Whatever the final prefix is, the agreement pattern follows. There are, however, some problems with this type of agreement rule. There is evidence that Bantu agreement is sometimes based upon more abstract features than overt noun class. Consider in this respect the following example from Swahili:

(15) a. *ki   -boko m   -moja a   -li -kula ma -jani*
       c.7   N   c.1   num c.1 T V   c.6 N
       hippo   one   s/he   eat   leaves
       'one hippo ate the grass/leaves'

    b. **kiboko kimoja kilikula majani*
        c.7   c.7   c.7

Here, the noun class of the subject is class 7, as indicated by the prefix *ki-*. The agreement prefixes, however, reflect not the noun class of the noun, but rather its animacy. No matter what class prefix an animate noun takes, it will usually take the agreement series of noun classes 1 and 2. The implication here, according to Anderson's criterion, is that the head noun prefixes in these cases are not inflectional. It is the more abstract feature [+animate] that must be the inflectional feature since it determines the agreement pattern. In addition, there are features that can override animacy. Consider these examples from Ashton [1947]:

(16) *Ø   -joka   hi -li   Ø -baya li -me   -kufa*
     c.5   N   dem c.5   c.5 adj   c.5 T,perf V
     (aug) snake this   bad   it   die
     'this monstrous snake is dead'

(17) *ki -toto   hi -ki ki -zuri ki -me   -kufa*
     c.7   N   dem c.7 c.7 adj   c.7 T,perf V
     (dim) child   this   good   it   die
     'this good infant has died'

In (16) and (17), the animacy of the subjects is overridden by features of [+augmentative] and [+diminutive], respectively, in determining the agreement. Note also that the two subjects in question are non-inherent nouns. They correspond to the inherent nouns *nyoka* ('snake/s', c.9/10) and *mtoto* ('child', c.1). The agreement pattern of these two inherent classes is overridden as well. From these sentences, we can establish a hierarchy of features that trigger agreement. (The symbol > denotes "overrides".)

(18)   animacy > noun class   (cf. 15)
         dim/aug > animacy   (cf. 16-17)

    This pattern is not completely accurate because it is possible for animacy to override diminution as the controlling feature of agreement.

(19) *ki -toto   hu -yu   m   -zuri   a   -me   -kufa*
       dem .c.1   c.1 adj   s.a.,c.1   T,perf   V
    (dim) child   this   good   she/he   die
    'this good infant has died'

It is clear from (15), (16), and (17) that diminution, augmentation, and animacy override noun class when they are features of the head noun, but there is some variation in the hierarchical relations among these three features, as seen from (17) and (19).

    Another example of where the expected noun class agreement is superseded is in the case of locatives. Many nouns can be made locative by suffixing *-ni* to an already prefixed noun.

(20) *n   -(y)umba -ni   pa   -na   watu   wengi*
      c.9/10   N   loc   c.16
    in/at the house   with   people many
    'there are many people in the house'

The feature which determines agreement here is the abstract feature [+exact location], not the noun class of the noun as indicated by any affix. There are three different agreement patterns that are possible with any noun marked with the locative suffix *-ni* representing three aspects of location: exact, approximate, and contained. This information is not represented on the noun because it takes only one possible suffix, *-ni,* so agreement in location is not something that is realized overtly on both modified and modifier.

    Note that (20) is different from the other cases of disagreement above in that the prefix of the inherent category is preserved, but its control over agreement is lost.

    The last example of disagreement that we will discuss is that involved with the collective kinship terms, given below.

(21) *ma -baba   z   -angu*   'my fathers'
      pl.   father   c.10   poss

    ma -dada   z   -angu   'my aunts'
    pl.   aunt   c.10   poss

    ma -rafiki   z   -angu   'my friends'
    pl.   friend   c.10   poss

The noun class copying rule (cf. 14) would yield agreement markers that correspond to the *ma-* class, yet the agreement markers realized are those of the inherent class of these nouns, class 10.

(22) *baba*   'father/s'
      ndugu   'sibling/s'
      rafiki   'friend/s'

This is an example of noun class overriding the non-inherent noun class of collectives. The hierarchy that emerges is given in (23).

(23)   animacy   >   noun class   (cf. 15)
         dim/aug   >   noun class   (cf. 16-17)
         dim/aug   >   animacy   (cf. 16-17)
         animacy   >   dim/aug   (cf. 19)
         location   >   noun class   (cf. 20)
         noun class   >   collective   (cf. 21)

The general implication in this hierarchy is that non-inherent noun class overrides inherent noun class in determining agreement. This is true in every case examined except in the case of collective animates (cf. 21). In these cases inherent noun class controls agreement on the possessive adjectives, although not on the other modifying elements. However, there is an explanation. All of the nouns which pattern like this are animate. Most of them originate in class 9/10, where possessive agreement is distinct between singular and plural. The agreement marker for animate possessives does not overtly distinguish between singular and plural.

(24) *m*   *-toto* *w*   *-angu*   *wa* *-toto* *w*   *-angu*
      c.1   N   c.1   poss   c.2   N   c.2   poss
      'my child'   'my children'

According to the hierarchy in (23) animate nouns from any class should take the agreement pattern in (24). Nouns in classes 9 and 10 do not show morphological number through a prefix. However, the agreement markers do show this distinction.

(25) *n*   *-dugu* *y* *-angu*   *n*   *-dugu* *z*   *-angu*
      c.9/10   c.9   poss   c.9/10   c.10   poss
      'my sibling'   'my siblings'

Zawawi claims that it is non-distinction of number in the animate possessive that leads people to use the possessives of class 9/10 to distinguish number. Moreover, she points out, if we use the agreement marker from class 6, the *ma-* class, the possessive prefix is phonetically identical to the singular *n-* class possessive prefix.

(26) dada   y   -angu   ma -dada   y   -angu
      sister c.9 poss   c.6 sister c.6 poss
      'my sister'   'my sisters'

So, it is to avoid ambiguity that one violates the hierarchy above.

The hierarchy in (23), then, reflects a close relation between non-inherent noun class affiliation and agreement. When there is a non-inherent feature present, it triggers agreement. When there is no non-inherent feature present, agreement is based on the inherent noun class of the noun. Only where there is ambiguity in the system will the inherent class of the noun take precedence over the non-inherent class in agreement.

In our proposed analysis, we have not totally correlated the feature [+animate] with non-inherency. Animacy, after all, is an inherent feature of all nouns in classes 1 and 2. But there are cases of nouns where the feature animacy is unrelated to noun class (cf. 15). What makes this feature inflectional is that it is independently needed in the syntax outside of agreement. Keach [1982] refers to the feature animacy in the derivation of the following focus sentences:[3]

(27) *m*   -*lima*   *u*   -*li*   -*panda* *wa* -*tu*
      c.3   N   c.3,subj.   tense,past V   c.2 N
      mountain   it   climb   people
      '(focus) people climbed *the mountain*'

(28) Ø -*hospitali i*   -*me*   -*ingia* *m* -*tu*
      cl.9/10,subj tense,perfect V   cl.1 stem
                                                      enter   person
      '(focus) the person entered *the hospital*'

These sentences, which Keach considers a type of passive, can only be formed when the underlying subject is animate and the underlying object is inanimate.

(29) **mlima ulipanda hospitali*

(30) **watu wameingia mtu*

Moreover, animacy is morphologically distinct in other ways in Swahili. There is a distinct form for the 3 sg. subject marker of locative expressions.

(31) *Juma* $\begin{Bmatrix} yu\text{ -}ko \\ *a\text{ -}ko \end{Bmatrix}$ *nyumbani*

      'Juma is at home/in the house'

___

[3]This example is originally from Whiteley and Mganga [1979].

Also, standard Swahili requires object agreement when the object is animate. Otherwise, agreement with the object is optional.

(32) *tu*   *-li* $\left\{ \begin{matrix} -mw \\ *\emptyset \end{matrix} \right\}$ *-ona Juma*
    s.a.,1 pl.   T,past   o.a.,3 sg. V
    'we saw him Juma'

(33) *tu*   *-li* $\left\{ \begin{matrix} -ki \\ \emptyset \end{matrix} \right\}$ *-ona ki -tabu chako*
    s.a.,1 pl.   T,past   o.a.,c.7 V   c.7 N   c.7, poss
    'we saw it your book'

According to Anderson, if animacy is a syntactically relevant feature, then it must be inflectional.

The strong version of Anderson's claim in (13) when applied to Swahili depicts the noun class system as a unified entity where noun class determines agreement. The exceptions noted above must be handled as stipulations in the system of agreement. We have provided evidence that the noun class system is not unified, but rather is made up of two types of classes, inherent and non-inherent. This morphological distinction corresponds to the distinction in the agreement system. Since animacy is an independently needed syntactic feature and it overrides noun class agreement, it must be an inflectional feature in Anderson's framework. By extension, we propose that all of the overriding features in agreement are *inflectional*. Whenever they are present, they determine agreement. This leaves inherent noun class as syntactically relevant only in those cases where there is no inflectional feature to determine agreement. Based on these facts, we propose a weakening of Anderson's claim.

(34) Inflection is what is *most* relevant to syntax.

In a morphologically rich language like Swahili, the distinction between inflection and derivation is not so clear cut. In Anderson's system, non-inherent/inflectional noun class takes precedence over inherent noun class in determining agreement, but is not the only syntactically relevant feature. To maintain the strong version of Anderson, it would be necessary to claim that inherent noun class agreement is extra-syntactic or that there is no distinction within the noun class system. Both of these alternatives have drawbacks. We maintain the position that agreement is syntactic since it operates between and across words. To deny that there is a distinction in the Swahili noun class system would miss an important generalization about the relation of noun class to agreement.

Although Anderson rejects the traditional criteria that differentiate inflection from derivation, he claims that many of these criteria fall out as a consequence of his model. This is also true in our system. Below are the traditional criteria that Anderson discusses:

(35)   Inflection   Derivation
        Productivity   +   -
        Category Changing   -   +
        Paradigmatic   +   -
        Exterior   +   -
        Semantics Changing   -   +

In this regard, consider diminutives once again. According to the traditional criteria, diminution is inflectional. It is productive, it is not category changing, it is paradigmatic, and it is neutral to the exterior criterion since it does not cooccur with inherent noun class. It does not change the meaning of the word, but merely delimits it in a predictable manner. So, diminutives represent the traditional paradigm of inflection that Anderson rejects.

4. Conclusion

The distinction between inflectional and derivational morphology has never been clearly made. Anderson's attempt to attribute inflectional morphology to that morphology which is syntactically relevant, we believe, is a step in the right direction. We have provided evidence in this paper that it is too strong. The spirit of his proposal is, however, substantiated in Swahili. By looking at the noun class system and patterns of agreement in this light, certain unaccounted for facts acquire a principled explanation.

We have not provided a complete account of all of the inflectional classes in Swahili but we feel that we have established a program upon which future research can be directed.

Further empirical evidence for or against this proposal will be found in the agreement facts of other languages outside of Swahili. If it is found that both syntactically relevant and irrelevant features determine agreement in other languages and furthermore that a hierarchy can be established between these, then this will constitute evidence for the weakened version of Anderson's hypothesis.

APPENDIX

Noun classes and Agreement Markers

Noun Class	Prefix	Subject Affix	Object Affix	Dem. Pro	Relative Affix	Adjective Affix	Possessive Affix
1	*m-*	*a-/yu-*	*-m-*	*huyu*	*-ye-*	*m-*	*w-*
2	*wa-*	*wa-*	*-wa-*	*hawa*	*-o-*	*wa-*	*w-*
3	*m-*	*u-*	*-u-*	*huu*	*-o-*	*m-*	*w-*
4	*mi-*	*i-*	*-i-*	*hii*	*-yo-*	*mi-*	*y-*
5	*(ji-)*	*li-*	*-li-*	*hili*	*-lo-*	*Ø-*	*l-*
6	*ma-*	*ya-*	*-ya-*	*haya*	*-yo-*	*ma-*	*ya*
7	*ki-*	*ki-*	*-ki-*	*hiki*	*-cho-*	*ki-*	*ch-*
8	*vi-*	*vi-*	*-vi-*	*hivi*	*-vyo-*	*vi-*	*vy-*
9	*n-*	*i-*	*-i-*	*hii*	*-yo-*	*n-*	*y-*
10	*n-*	*zi-*	*-zi-*	*hizi*	*-zo-*	*n-*	*z-*
11	*u-*	*u-*	*-u-*	*huu*	*-o-*	*u-*	*w-*
14	*u-*	*u-*	*-u-*	*huu*	*-o-*	*u-*	*w-*
15	*ku-*	*ku-*	*-ku-*	*huku*	*-ko-*	*ku-*	*kw-*
16	*-ni*	*pa-*	*-pa-*	*hapa*	*-po-*	*pa-*	*pa-*
17	*-ni*	*ku-*	*-ku*	*huku*	*-ko-*	*ku-*	*kw-*
18	*-ni*	*mu-*	*-mu-*	*humu*	*-mo-*	*mu-*	*mw-*

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SOME YORUBA QUANTIFIER WORDS AND
SEMANTIC INTERPRETATION: A CRITIQUE*

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This work takes a close look at the Yoruba quantifiers, *púpọ̀, ọ̀pọ̀,* and *ọ̀pọ̀lọpọ̀*
'many', and concludes that, contrary to Lawal's [1986] claim, it is difficult to
differentiate semantically between them.

1. Introduction

Lawal [1986:95] examines the Yoruba quantifiers, *pọ̀, púpọ̀, ọ̀pọ̀,* and *ọ̀pọ̀lọpọ̀,*
which she regards as the "four morphological encodings for the quantifier 'many'"
and concludes that the last three differ not only morphologically and syntactically,
but also semantically.[1] She does not compare the first with the others because,
according to her, it is the verb from which the others are derived. We agree that
these three words differ both morphologically and syntactically, but we find it very
difficult to differentiate semantically between them. The same applies to other
native speakers we consulted. To support our argument, we shall use (i) Odell's
[1984] paraphrastic criteria for determining whether "a linguistic expression has, in
the same or a different linguistic context, the same sense as another linguistic
expression" [Odell 1984:118] and (ii) one of the criteria for lexical relations
proposed by Cruse [1986] to see if one could differentiate semantically between the

---

[1]This classification assumes that *ọ̀pọ̀* 'cheap' is distinct from *ọ̀pọ̀* 'many' and *ogunlọ́gọ́,* often
glossed as 'many/several', is not a morphological encoding for 'many'. Note, too, that the three
items can be used adverbially as in *ó pọ̀ púpọ̀, ó pọ̀ lọ́pọ̀,* and *ó pọ̀ lọ́pọ̀lọpọ̀* 'they are too many'.
Lawal does not discuss this use of the items and we shall not be concerned with them here.

items *ọ̀pọ̀*, *púpọ̀*, and *ọ̀pọ̀lọpọ̀*. We shall then present empirical evidence to support our argument.

2. Theoretical Consideration

2.1. Odell's [1984] paraphrastic criteria. Odell [1984:118-119] distinguishes between two kinds of synonymy, "the kind which exists between two tokens of the same type, and ... the kind that exists between two tokens of different types". The former is referred to as *monotypical* synonymy while the latter is called *multitypical* synonymy. They are defined as follows:

> An expression *e* in S1 is *monotypically synonymous* with *e* in S2 if *e* is used in the same sense in S1 and S2.

> An expression *e* in S1 is *multitypically synonymous* with *f* in S2 if *e* and *f* are used in the same sense.

As the items *ọ̀pọ̀*, *ọ̀pọ̀lọpọ̀*, and *púpọ̀* are not three tokens of the same type, it is the latter definition that concerns us here. The criterion formulated by Odell [1984:119] for deciding whether some given items are multitypically synonymous is as follows:

> An expression *e* in S1 is *multitypically synonymous* with *f* in S2 if (1) there is a word or phrase *g* which is a metaphrase of *e* in S1 and of *f* in S2, (2) there is no word *h* which is a metaphrase of *e* in S1 but not of *f* in S2, and (3) neither S1 nor S2 is odd.

If one applies this criterion to the use of the items *ọ̀pọ̀*, *púpọ̀*, and *ọ̀pọ̀lọpọ̀* in sentences, one would note that they are multiytpically synonymous. Given a situation of a thousand people standing watching a play and only fifty people sitting watching the same play, consider the following sentences where

$$
\begin{aligned}
\textit{púpọ̀} &= e \\
\textit{ọ̀pọ̀} &= f \\
\textit{ọ̀pọ̀lọpọ̀} &= g \\
\textit{díẹ̀} &= h
\end{aligned}
$$

(1) a. ó rí ènì yàn púpọ̀ ní ì dúró   'he saw many people standing'
         he see people many in standing

     b. ó rí ọ̀pọ̀ ènì yàn ní ì dúró   'he saw many people standing'
         he see many people in standing

     c. ó rí ọ̀pọ̀lọpọ̀ ènì yàn ní ì dúró   'he saw many people standing'
         he see many   people in standing

d. ??ó rí *ènì yàn díè̩ ní ì dúró*   'he saw a few people standing'
    he see people few in standing

The *púpò̩* in (1a), the *ò̩pò̩* in (1b), and the *ò̩pò̩lopò̩* in (1c) are multitypically synonymous, but the 4th (=*h*) is not because one cannot use *díè̩* 'a few' to describe a
thousand people standing where only fifty are sitting.

2.2. Cruse [1986] on lexical meaning. Cruse [1986] also provides some
criteria for determining whether some items are logically equivalent. According to
him, a useful semantic test for deciding the logical relations between items is to see
if the items mutually entail each other [Cruse 1986:15]. If one applies this test to the
quantifiers under discussion, one would note that they are logically equivalent. For
instance, I can say (2a,b,c) but not (2d).

(2) a. *ó bá   èni yàn púpò̩ ní ì dúró   ní ibi   eré náà nítorí   nínú*
        he meet people many in standing in place play the because inside

     e̩gbè̩rún   èni yàn, àádó̩ta péré ni ó rí ì jókòó
     one thousand people fifty   only FOC he get seats

     'he met many people standing in the concert because out of one thousand
     people, only fifty were able to get seats'

   b. *ó bá   ò̩pò̩lopò̩ èni yàn ní ì dúró   ní ibi   eré náà nítorí*
       he meet many   people in standing in place play the because

     nínú   e̩gbè̩rún   èni yàn, àádó̩ta péré ni   ó rí ì jókòó
     in inside one thousand people fifty   only FOC he get seat

     'he met many people standing in the concert because out of one thousand
     people, only fifty were able to get seats'

   c. *ó bá   ò̩pò̩ èni yàn ní ì dúró   ní ibi   eré náà nítorí   nínú*
       he meet many people in standing in place play the because in inside

     e̩gbè̩rún   èni yàn, àádó̩ta péré ni   ó rí ì jókòó
     one thousand people fifty   only FOC he get seat

     'he met many people standing in the concert because out of one thousand
     people, only fifty were able to get seats'

d. ??ó bá   ènì yàn díẹ̀ ní ì dúró   ní ibi   eré náà nítorí   nínú
   he meet people few in standing in place play the   because in inside

   ẹgbẹ̀rún   ènì yàn, àádọ́ta péré ni   ó   rí   ì jókòó
   one thousand people fifty   only FOC he get seat

   'he met a few people standing in the concert because out of one thousand
   people, only fifty were able to get seats'

Example (2d) is anomalous because in talking about people at a concert, nine
hundred and fifty people would be an entailment of "many" not "few".

From these tests, one can conclude that the quantifiers ọ̀pọ̀, ọ̀pọ̀lọpọ̀, and púpọ̀ are
logically equivalent. To further support our argument, we shall check how these
words are used in a Yoruba literary work. Our choice for this is Okediji's [1983]
Atótó Arére .

3. Empirical Evidence

3.1. Why *Atótó Arére*? As we have stated elsewhere,[2] this prose is of interest
because it depicts not only real characters but also reflects real life experiences of
some Yoruba cities and villages. The prose is also one of those few writings in
Yoruba which adequately represent the standard language. The dialectal variation
is minimal, and most tones are indicated. The author has also been described as one
who "makes use of the reader's cultural knowledge and linguistic competence to
good stylistic advantage" [Iṣọla 1978:501]. In this work, references from the novel
are put in brackets [ ]. Before we start quoting examples from the novel to justify
our claim, let us summarize some of the points touched upon by Lawal.

3.2. Lawal [1986] in brief. The points raised by Lawal which concern us in
this work are that:

> The size of the set referred to by ọ̀pọ̀lọpọ̀ is greater than that of ọ̀pọ̀ and the
> one referred to by the latter is greater than that of *púpọ̀*.

> *Púpọ̀* and ọ̀pọ̀ emphasize the number or largeness of the set, ọ̀pọ̀lọpọ̀ em-
> phasizes variety within a set.

> *Púpọ̀* and ọ̀pọ̀ imply undifferentiated mass of people only while ọ̀pọ̀lọpọ̀ is
> used for individual interpretation of a given set of people.

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[2]See Adewọle [forthcoming].

NP's higher in animacy are quantified by *òpòlopò* while those lower in animacy are quantified by *òpò* or *púpò* . This supports Comrie's view on animacy that "individuated objects ... are viewed by humans as being higher in animacy than less individuated objects" [Lawal 1986:103].

In what follows, we shall examine these points one by one to see if they are justified by the facts of the language. We begin with size distinction.

3.3. The problem of size. Lawal states that the set referred to by *òpòlopò* is greater than the one *òpò* refers to and that the one referred to by the latter is greater than the one referred to by *púpò*. That this claim is not correct is shown by the following examples:

(3) a. *ó   rí   òpò   èrò   tí   wón   ń   lu   àwon méjì kan*   [p. 249][3]
       he see many people that they PROG hit they two   one
       'he saw a crowd of people hitting two people'

    b. *nígbà   tí   àwon   èrò   náà   rí   olópàá, wón   síwóo   lílu   àwon*
       in time that they crowd the see police   they stop   hitting   they

       àlejò   náà,   òpòlopò   sì   sá   lo [p. 249]
       stranger the   many   then run go

       'when the (crowd of) people saw a policeman, they stopped hitting the strangers, many of them ran away'

What should be noted is that these two sentences are referring to the same set of people who are all farmers. The example in (3a), in which *òpò* is used, refers to the whole set of people. The example in (3b), where *òpòlopò* is used, refers to only some of these people. This is contrary to Lawal's claim that *òpòlopò* is used to refer to a set which is greater than the one referred to by *òpò*. If any of the two is greater in these two examples, it should be *òpò* because in (3b) where *òpòlopò* is used, only some of the people ran away on seeing the policeman.

    This is not to say that *òpò* cannot be used in place of *òpòlopò* in (3b) and the latter in place of the former in (3a), but what we note is that when they are so used, they still give the same meaning. We still have more people in (3a) than (3b). Their use in sentences such as (3a) and (3b) depends on which of the two the speaker prefers.

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[3]*Context:* A man has just been murdered in a village. The murderer escaped but some villagers, all middle-aged farmers, searching for the murderer/murderers saw two men loitering around. They concluded that the two men should be the murderers. They took the law into their hands and started hitting the men. A policeman came just in time to save the men from being lynched.

The two readings in the sentences are called forth by different types of contexts. The two items realize a common core meaning.

3.4. Largeness of the set and variation within the set. Lawal's claim that *ọ̀pọ̀lọpọ̀* indicates variety within a set while *púpọ̀* and *ọ̀pọ̀* imply largeness of the set is also incorrect. Witness the following examples:

(4) ó léegun   ju   ọmọ olóbì   lọ,   sùgbọ́n ọmọ olóbì
    he has power more than child kola-owner but   child kola-owner

    mọ   àyínìke   ìja   púpọ̀   [p. 26]
    know technique fight many

    'he is stronger than the boy selling kola but the boy knows the technique of wrestling better than he does'

(5) Alàbá gba ọ̀pọ̀lọpọ̀ súgà   [p. 106]
    Alaba get much   sugar

    'Alaba collected a lot of sugar'

In (4), it is not the largeness of techniques of wrestling that the boy knows but the various types that are being discussed. In (5), on the other hand, we are talking about the amount of sugar and not different types of sugars. This is because all the sugars are plain, white cubes.

In addition, if one looks at sentences (3a) and (3b), one would note that the people are farmers, so the use of *ọ̀pọ̀lọpọ̀* does not emphasize their background or discipline. The people are also all middle-aged, so, no distinction either of sex or age-group is made with the use of *ọ̀pọ̀lọpọ̀* in (3b).

We also note that *ọ̀pọ̀lọpọ̀* can mean 'much' or 'many' when applied to mass nouns or uncountable items. For example, both (6a) and (6b) are ambiguous between 'a lot of palm wine' and '(many) different kinds of palm wine' with no difference in preferred reading. The reading 'a lot of palm wine' applies when the same type of palm wine is used for the sacrifice and the other reading applies when different types of palm wine, e.g. *iṣà* 'a day old palm wine', *àyọ̀* 'palm wine tapped and drunk on the same day', *ògidì ẹmu* 'a palm-wine not mixed with water', *òjú-ògún* 'the first palm-wine to be tapped from a palm tree often used in sacrifice to Ogún, god of iron', etc., are used for sacrifice.

(6) a. ó   fi   ọ̀pọ̀lọpọ̀   ẹmu   bọ   àwọn òrìṣà
       he use many/much palm-wine sacrifice many gods
       'he used many different kinds of/a lot of palm-wine to sacrifice to the gods'

b. *ó fi ẹmu   púpọ̀   bọ   àwọn òrìṣà*
    he use palm-wine many/much sacrifice many gods
    'he used many different kind of/a lot of palm-wine to sacrifice to the gods'

3.5. Undifferentiated mass vs. individual interpretation. Lawal also claims that while *ọ̀pọ̀lọpọ̀* is used for individual interpretation, *ọ̀pọ̀* and *púpọ̀* are used for undifferentiated mass. Our examples (3a) and (3b) counter this claim. As stated above, both *ọ̀pọ̀* and *ọ̀pọ̀lọpọ̀* in (3a) and (3b) are used for the same set of people, *ọ̀pọ̀* for all of them and *ọ̀pọ̀lọpọ̀* for some of them. There is no way one can know whether the people are differentiated or not. For one thing, the narrator of the story does not know any of the people hitting the men. What this means is that the set of people hitting the man is undifferentiated yet, as we have seen, both *ọ̀pọ̀lọpọ̀* and *ọ̀pọ̀* can be used interchangeably.

3.6. The animacy property. The last criterion used by Lawal to distinguish these words from each other is that of animacy. According to her, NP's that are regarded as higher in animacy are quantified by *ọ̀pọ̀lọpọ̀* while those that are regarded as lower in animacy are quantified either by *ọ̀pọ̀* or *púpọ̀* [Lawal 1986:102-103].

Most of the examples given by Lawal herself are counterexamples to this claim. Witness the following examples [Lawal 1986:101] (the numbering is ours):

(7) *ọ̀pọ̀lọpọ̀ ènìyàn lọ   ibi   òkú   náà*
    many   people went place-of funeral the
    'many people attended the funeral'

(8) *ọ̀pọ̀   ènìyàn lọ   ibi   òkú   náà*
    many people went place-of funeral the
    'many people attended the funeral'

(9) *ènìyàn púpọ̀   lọ   ibi   òkú   náà*
    people many went place-of funeral the
    'many people went to [sic] the funeral'

As the glosses show, the three sentences have the same meaning, and they are all acceptable. Yet, in the three sentences, we have *ènìyàn* 'people', which is animate.

Other counterexamples to Lawal's claim are the following popular Yorùbá sayings:

(10) ọ̀pọ̀   ẹja ní   ń   bẹ   nínú   ibú
      many fish FOC PROG exist in inside deep sea
      'there are many fishes in the ocean'

(11) ọ̀pọ̀lọpọ̀ ìràwọ̀ ní   ń   bẹ   lódé   ọ̀run
      many   star   FOC PROG exist in outside heaven
      'there are many stars in the sky'

(12) ọ̀pọ̀lọpọ̀ iyanrìn   ní   ń   bẹ   létí   òkun
      many   sands   FOC PROG exist in side ocean
      'there are a lot of sands by the side of the ocean'

In (10-12), ẹja 'fish' is higher in animacy than both ìràwọ̀ 'star' and iyanrìn 'sand' yet, while ọ̀pọ̀ is used to quantify ẹja 'fish', ọ̀pọ̀lọpọ̀ is used to quantify both ìràwọ̀ 'star' and iyanrìn 'sand'.

Also, examples (13-15) which Lawal [1986:103-104] marks as semantically anomalous are acceptable to some Yoruba speakers we interviewed (the numbering is ours).

(13) ọ̀pọ̀lọpọ̀ iiyanrìn ló   ṣe é   po   síbẹ́ńtì   [sic]
      many   sands   be do INF mix cement
      'many sands can be used to mix cement'

(14) ọ̀pọ̀lọpọ̀ ẹ̀fọn   máa ń   kú ní àsìkò ọyẹ́
      many   mosquitoes habitual die at time cold
      'many mosquitoes die during the cold weather'

(15) wọ́n kó   ọ̀pọ̀lọpọ̀ kóriko dà   sí àjà
      they carried many . grass throw at loft
      'they throw many grasses in the loft'

Other counterexamples to Lawal's claim taken from *Atótó Arére* are as follows:

(16) ọ̀pọ̀   ènìyàn àti aláìlágbára tààrà kò   jẹ́kí Fọ̀ràwáì lè
      many people and powerless   much NEG allow Forawai able

      sá   lọ ní   tirẹ̀   [p. 249]
      run go in his own

      'Forawai could not escape because apart from the number of people
      around, he was also powerless'

(17) *nígbà   tí   ó   wo   olúwa-rè,   ó   rí   i   pé   ẹni   kan   tí*
       in time   that   he   look   person-his   he   see   him   that   one   person   that

     ó   bá   òun   ra   ọ̀pọ̀lọpọ̀   táyà   ní   Ilé-Ifẹ̀   láì pẹ́   ni   [p. 103]
     he follow   him   buy   many   tyres   in   Ilé-Ifẹ̀   in-not-long   FOC

     'when he looked at the person, he saw that the person was the one who bought
     many tyres from him in Ilé-Ifẹ̀ recently'

In (16), *ènì yàn* 'people' is quantified with *ọ̀pọ̀*, and in (17), *táyà* 'tyre' is quantified with *ọ̀pọ̀lọpọ̀*. With the animacy principle the reverse should be the case.

3.7. Further comments on animacy. We quite agree with Palmer [1986:2] that linguists should look into different languages for items "identified and defined in terms of the formal characteristics of each of those languages" that could be used to illustrate some scholars' typological postulates. Such illustrations have recently become the subject of a number of scholarly works. Some proposed illustrations are entirely justified, but quite a few are not. Our detailed examination of the quantifiers *ọ̀pọ̀*, *ọ̀pọ̀lọpọ̀*, and *púpọ̀* shows that the proposal that they could be distinguished on the basis of their animacy property falls into the latter category.

4. Conclusion

The quantifiers *ọ̀pọ̀*, *ọ̀pọ̀lọpọ̀*, and *púpọ̀*, therefore, are semantically identical. We are quite aware of the fact that absolute synonymy is a rare phenomenon but, despite this, we have been able to provide both theoretical and empirical evidence to show that if these items differ in respect of some semantic properties,[4] they are not the ones noted by Lawal.

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[4]These still need to be investigated.

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SOME YORUBA QUANTIFIER WORDS AND SEMANTIC INTERPRETATION:
A REPLY TO A CRITIQUE*

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It is now an uncontroversial fact that if a linguist is to describe a language, the data on the basis of which he formulates his hypothesis should be the natural "speech" of native speakers of that language. Thus, in present day linguistics native informant tests and judgements are considered as more significant than text data. Native informants are considered the last arbitrament on questions of empirical fact. This requirement forces the linguist to observe the way people really do speak their language. He thus avoids basing his description on what he thinks they say. A linguistic description thus reflects the language of speech, not writing.

The empirical support for Adewole's critique of my paper (in this issue), "Some Yoruba quantifier words and semantic interpretation" [Lawal 1986], comes from a literary text *Atótó Arére* [Adewole p. 4]. Adewole's approach, which is characteristic of traditional or taxonomic linguistics, has been found to be most unreliable in dealing with questions of empirical fact and is strongly rejected in present day linguistics. Our study of the semantic interpretation of some Yoruba quantifier words was based on native speaker judgements/tests, specifically Yoruba speakers in Ilorin township of Kwara State of Nigeria. The account of Yoruba quantifier 'many' given by Adewole is very simplified. We examine his arguments below.

1. Logical Equivalence

Adewole disagrees with us as to the semantic differences which we say exist among the quantifiers *òpòlopò, òpò*, and *púpò*. According to Adewole the quantifiers are logically equivalent. If we say two linguistic items are logically equivalent it means they can be interchanged without affecting the validity of the argument. Now consider the following examples:

(1) a. *ó   ni   agbára   púpọ̀*   'he has a lot of power'
        he   has   power   a lot

    b. *ó   ni   ọ̀pọ̀lọpọ̀   agbára*   'he has many powers'
        he   has   many   powers

For native speakers, the above sentences (1a) and (1b) do not mean the same thing. In (1a) we are saying that the subject has a lot of physical power, i.e. he is very strong, while in (1b) we are saying that he has many different powers. According to native speakers *ọ̀pọ̀lọpọ̀* will be used when talking of a person who has metaphysical powers apart from physical power. *Púpọ̀* cannot be used in such a context. Again consider the sentences below:

(2) a. *ọ̀pọ̀lọpọ̀   ẹranko   ló   wa   nínú   igbó*
      many   wild animals   emph   be   inside jungle
      'there are many wild animals in the jungle'

    b. **ẹranko   púpọ̀   ló   wa   nínú   igbó*
      wild animals   many   emph.   be   inside jungle

In (2b) the substitution of *púpọ̀* for *ọ̀pọ̀lọpọ̀* renders the sentence unacceptable. Speakers do not accept *púpọ̀* in this context because apart from the large quantity of animals found in the jungle, they are also of many different types, and this is not reflected in (2b), where we have *púpọ̀*. When one describes a situation which involves both quantity and types, the appropriate quantifier that will be used in natural speech is *ọ̀pọ̀lọpọ̀*, not *púpọ̀*. This explains the ungrammaticality of (2b).

    The above examples show that contrary to what Adewole says the quantifiers are not logically equivalent since they cannot be interchanged without affecting the validity of the argument. Many other examples abound which support our claim.

2. Size of Set

    Adewole also disagrees that *ọ̀pọ̀lọpọ̀* refers to a larger set than *ọ̀pọ̀*. However, Adewole's claims are based on sentences taken from a literary text and not on natural speech. As we pointed out earlier, in present day linguistics, linguistic descriptions are based on natural speech, not written language. Our claim with regards to the size of the set denoted by *ọ̀pọ̀* and *ọ̀pọ̀lọpọ̀* is based on native speaker judgements about the way these quantifiers are used in natural speech.

3. Variation Within the Set

Another semantic difference which we pointed out in our study is that *ọ̀pọ̀lọpọ̀* points to variation or types/kinds within the set while *púpọ̀* and *ọ̀pọ̀* points just to quantity. Adewole sees no such difference between *ọ̀pọ̀lọpọ̀* and *púpọ̀/ọ̀pọ̀*. His claim is again based on a sentence taken from the literary text *Atótó Arére*. However, native speakers consulted disagree with Adewole on this. For example, speakers did not see his examples (5) and (6) as being ambiguous. They said *ọ̀pọ̀lọpọ̀* does not refer to quantity only. More than that, it points to the fact that different kinds are involved. Our examples (1) and (2) above and (3) below support this claim:

(3) a. ọ̀pọ̀   wáyà   ni   ewu   púpọ̀
         pole   electric   has   danger   much
         'electric poles have great danger' *or* 'electric poles are very dangerous'

     b. ọ̀pọ̀   wáyà   ni   ewu   lọ́pọ̀lọpọ̀
         pole   electric   has   dangers   many
         'electric poles have many dangers'

For speakers, (3a) and (3b) are not synonymous. The interpretation given to (3b) is that the dangers are of many types. For example, it can destroy houses by falling on them, it can give an electric shock to a person, it can cause fire outbreak, it can cause damage to electrical installations, etc.

In (3a) on the other hand we have a different interpretation. According to speakers, what (3a) means is that the danger in an electric pole can be very devastating. The quantifier *púpọ̀* describes the danger in terms of its devastating effect whereas *ọ̀pọ̀lọpọ̀* points to the different types of dangers that can result from an electric pole. These are the interpretations given to these quantifiers in natural speech. Our argument is not that *ọ̀pọ̀lọpọ̀* does not indicate quantity. It certainly does, but it also points to different types of items. In other words, that *ọ̀pọ̀lọpọ̀* indicates 'large quantity' is already established, but more than that it also points to variation within the set. It is this additional semantic property that distinguishes *ọ̀pọ̀lọpọ̀* from *púpọ̀* and *ọ̀pọ̀*.

4. Animacy/Undifferentiated vs. Individual Interpretation

Our final point which Adewole questions is the semantic property "animacy". Adewole disagrees with our statement that NP's quantified by *ọ̀pọ̀lọpọ̀* are treated as more animate than those quantified by *púpọ̀* and *ọ̀pọ̀*. The problem is that Adewole took animacy here in its literal sense, that is, in terms of human > non-

human/animate > inanimate. The linguistic notion of animacy is not concerned wi
animacy in its literal sense. It involves an extension of the notion of animac
[Comrie 1981:178-193]. For example, some of the examples cited by Comrie a
of languages that treat first and second person pronouns as more animate than thii
persons, although, as pointed out by Comrie, strictly speaking, the first person is r
more animate than the third person.

One of the ways in which animacy is reflected in language is in morphologic
systems [Comrie 1981:198]. In Yoruba there is a morphological split betwee
ọ̀pọ̀lọpọ̀, púpọ̀, and *ọ̀pọ̀*, and we suggest that this split correlates with degree o
animacy.

Our claim is strengthened by the fact that the above split tends to correlate wit
another relevant opposition, viz. number distinction. Entities of higher animac
tend to have number distinction while those of lower animacy tend to be viewed a
undifferentiated mass [Comrie 1981]. Such a distinction is manifested in *ọ̀pọ̀lọpọ̀* i
terms of "types/kinds" [Lawal 1986]. Of course both *ọ̀pọ̀lọpọ̀* and *púpọ̀* may be use
to quantify human or inanimate entities. Our argument however, is that the choic
of one quantifier rather than the other depends on how the entities within the set ar
viewed. If speakers view the entities within the set in terms of types, i.e. individua
then *ọ̀pọ̀lọpọ̀* will be used, but if the entities are viewed solely in terms of thei
number or quantity, i.e. undifferentiated, then *púpọ̀* or *ọ̀pọ̀* will be used. Thi
would explain why Adewole finds some of our starred examples acceptable.

5. Conclusion

Before a descriptive statement can be applied to whole speech communities
must be referable to data beyond the written text. The need for linguists to be full
aware of how the language is actually spoken cannot therefore be over-emphasised

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PUBLICATIONS RECEIVED

Daniel Barreteau. *Description du mofu-gudur: Livre I, Phonologie.* Collection Travaux et Documents n° 206. Paris: Editions de l'ORSTOM, 1988. Pp. 551. No price given.

Daniel Barreteau. *Description du mofu-gudur: Livre II, Lexique.* Collection Travaux et Documents n° 206. Paris: Editions de l'ORSTOM, 1988. Pp. 480, 13 maps. No price given.

These books constitute the fullest documentation to date of Mofu-Gudur, a Chadic language of northern Cameroon. The phonologie begins with an Introduction describing aspects of the culture and history of the Mofu as well as the classification and dialects of the language, the conduct of the research, and efforts at standardization. The first chapter of the phonology proper is on the consonants. There is an articulatory description followed by long sections with minimal pairs for all consonants and statistical tables on frequencies of occurrence.and frequences of combinations in words. The section on vowels is organized similarly. This is followed by sections on tones and syllable structure. With the above data in mind, an analysis is proposed reducing the vocalic system to a single vowel with palatalization and a ə insertion rule. The final section on phonology discusses word demarcation and phonology of longer strings. Following this is a section on a practical orthography and a folktale in phonological and orthographic transcriptions. The book ends with a bibliography on the Mofu people and their language. The dictionary is described as "preliminary", meant as an illustration of the practical orthography. However, it is fully tone marked. An introduction describes the organization of the dictionary and the forms used as entries. A brief grammatical section gives basic features of nominal and verbal morphology. The Mofu-French section is said to contain about 4000 entries. Definitions are mainly single words or short phrases. There are no illustrations and no grammatical information other than grammatical category, though idioms and compounds include literal as well as free translations, and roots for derived forms are given. There is also a French-Mofu section with considerable semantic cross-referencing. The book ends with 13 maps. Both books are interspersed with black and white photographs of scenes from the Mofu area and the speakers who helped in compiling the materials.

Hounkpati B.C. Capo. *Renaissance du Gbe: Réflexions critiques et constructives sur l'EVE, le FON, le GEN, l'AJA, le GUN, etc.* Hamburg: Helmut Buske Verlag, 1988. Pp. xx, 234, 3 maps. DM 48,--.

[From English abstract, p. 234]: "[The book's] subject matter is a language which is at the same time well known and poorly known. It is Gbe, whose Eve, Gen, Aja and Fon dialects are spoken from Ghana to Nigeria. The book begins with an overview of the present language situation in West Africa, a situation which amounts to a confused and unresolved state. The first part, which follows, is concerned with the identity and history of the Gbe dialect cluster through the location of its speakers and an inventory of its dialects (ch. 1), the glossonym itself (ch. 2), the orthographic reforms that have affected the present written forms (ch. 3), and the factors and agents of the

present crumbling state of the language (ch. 4). The second part (ch. 5-9) lays the foundation for the revival of Gbe and indicates that the objective conditions of this revitalisation are met. The third part deals concretely with questions of standardisation and modernisation of Gbe as a necessary step of its rebirth. Here are discussed not only the standard unifrom orthography of Gbe (ch. 10), but also the strategy to adopt in order for this new orthography to gain acceptance (ch. 11). Then are discussed in ch. 12 questions relating to the lexical and syntactic codification of the standard form to be promoted, Common Gbe, and in ch. 13 the characteristics of pronunciation of this supra-dialectal variety. Ch. 14, that ends this part, considers the chances of success of a deliberate and conscious undertaking to standardise and modernise Gbe. Finally, as is the case with the general introduction, the general conclusion deals with West Africa (and not Gbe as such), and it states some of the principles that should sustain a consistent language policy."

Salem Chaker. *Etudes touareques: bilan des recherches en sciences sociales.* Aix-en-Provence: Edisud, 1988. Pp. 192. 100F.

[From the back cover]: "Cette étude, réalisée à la demande de l'Agence de Coopération Culturelle et Technique (Paris), propose un bilan très complet des recherches en science humaines (société, langue et culture) consacrées au Touaregs. Résultant d'une large coopération internationale, l'ouvrage répertorie l'ensemble des activités (enseignement et recherche) et des sources documentaires ayant trait à ce domaine. Il est complété par une bibliographie analytique de 673 titres couvrant la production de la écennie 1977-1987. Instrument de travail d'une ampleur et d'une précision exceptionnelles, réalisé par les meilleurs spécialistes internationaux du domaine, ce sera un outil indispensable et pratique pour tous ceux qui s'intéressent aux Touaregs." The book contains summaries of reseach programs on the Tuareg in a number of countries and research in ethnomusicology, audio recording, and films. This is followed by an alphabetical list of researchers, a bibliography arranged alphabetically by author, and an index to the bibliography by subject area.

I.M. Diakonoff. *Afrasian Languages.* Languages of Asia and Africa. Moscow: Nauka, 1988. Pp. 144. 1 r., 70 k.

This is, in effect, an update of Diakonoff's 1965 *Semito-Hamitic Languages*, the first book, and still the most complete work, to attempt a comparative reconstruction of features of morphology and syntax of proto-Afroasiatic (= Semito-Hamitic = Hamito-Semitic = Afrasian). Diakonoff's new book takes advantage of research over the past twenty years plus knowledge derived from a large work being compiled in the Soviet Union, the *Comparative-historical Vocabulary of Afraision*. The introducion of the present book outlines the classification and a few general features of what are now considered the six branches of "Afrasian": Semitic, Cushitic, Omotic, Egyptian, Berber, and Chadic. The comparative chapters are the following: Chapter 1, Phonology; Chapter 2, Root and Word Structure; Chapter 3, The nominal Categories in Common Afrasian (Gender and nominal classes, Case, Status, Number, "Broken" plural, Mimation (nunation) and the article, Numerals, Prepositions and postpositions); Chapter 4, Pronouns (Personal pronouns, Personal markers in the verb, The *nota genitivi*, Deictic and other pronouns); Chapter 5, The Verb; Chapter 6, Some Data on the Syntax (Word order, Varieties of attributive phrases, Subordination). There is an Appendix consisting of short texts from languages of each group. A select bibliography completes the book.

Cheikh Anta Diop. *Nouvelles recherches sur l'égyptien ancien et les langues négro-africaines modernes*. Dakar: Présence Africaine, 1988. Pp. 221. No price indicated.

This is the posthumous publication of previously unpublished manuscripts by Cheikh Anta Diop in support of his theory of the relation of the languages of Black Africa and Ancient Egyptian. The chapters cover comparison of various Egyptian morphological structures with those of Wolof. The book ends with a bibliographie of the author's published works.

Graham Furniss and Philip J. Jaggar (eds.). *Studies in Hausa Language and Linguistics in Honour of F.W. Parsons*. London & New York: Kegan Paul International in association with the International African Institute, 1988. Pp. xxxii, 282. £30.

This is a collection of papers on Hausa linguistics and literature offered to F.W. Parsons on the occasion of his eightieth birthday. An introductory section by the editors includes an introduction on Hausa studies and Parsons' place in them, a biographical sketch of Parsons and a list of his publications, notes on the contributors, an obituary of D.A. Olderogge (who had planned to contribute to the volume), and an article on Hausa language examinations by A.H.M. Kirk-Greene. The papers are divided into two sections. Part I, *Language and Linguistics*, contains the following papers: "The vowels of Hausa" by J. Carnochan, "Fonction de la diathèse dans le verbe haoussa" by Claude Gouffé, "Discourse deployability and indefinite NP-marking in Hausa" by P.J. Jaggar, "Hausa and Chadic--a reappraisal" by H. Jungraithmayr, "A NAg-ging question in Hausa: remarks on the syntax and semantics of the plural noun of agent" by J.A. McIntyre, "O shush! An exclamatory construction in Hausa" by P. Newman, "Augmentative adjectives in Hausa" by R.M. Newman, "On the distribution of consonants and vowels in the initial syllable of disyllabic Grade 2 verbs in Hausa" by N. Pilszczikowa-Chodak, and "Resumptive strategies in Hausa" by L. Tuller. Part II, *Language and Literature*, contains the following papers: "Ak'ilu Aliyu, wordsmith: some aspects of the language of his poetry" by D.W. Arnott, "The use of linguistic devices in poetry" by D.M. Bagari, "The language of praise and vilification: two poems by Muhammadu Audi of Gwandu about Abubakar, Emir of Nupe" bu G. Furniss, "New vocabulary and idioms in Modern Hausa literature" by S. Pilaszewicz, "Préalable to a theory of Hausa poetic meter" by R.G. Schuh, "Lexical incompatibility as a mark of *Karin Magana* " by A.N. Skinner, "The language of Hausa riddles" by Ibrahim Yaro Yahaya, and "A Hausa language and linguistics bibliography 1976-86" by N. Awde.

Eldridge Mohammadou. *Traditions d'origine des peuples du centre et de l'ouest du Cameroun*. African Languages and Ethnography XX, ed. by Morimichi Tomikawa. Tokyo: ILCAA, 1986. Pp. viii, 207. Available on request at no charge.

This is a collection of oral traditions and other information on the histories of peoples in northern and western Cameroon and continguous areas of Nigeria. The traditions are in French translation. The following peoples are represented: the Bamileke, the Bamoun, peoples of the Bamenda/Banso areas, the Tikar, the Mbum, the Jukun, and peoples of "Kisra", including many groups of northeastern Nigeria.

Yves Moñino. *Lexique comparatif des langues oubanguiennes*. LACITO-LAPAC. Paris: Geuthner, 1988. Pp. 149, 6 maps. No price indicated.

[From the back cover]: "Le présent ouvrage vise à apporter des éléments fiables de travail de de réflexion à un comparatisme oubanguien dont l'ambition s'accordait mal, jusqu'ici, avec les connaissances réduites en ce domaine: a't'-il été démontré que les langues oubanguiennes sont issues d'un parler commun ancestral, et forment une «famille» linguistique? Tel est le problème soulevé par ce volume, qui, après avoir analysé l'état de recherches, présente un lexique de 204 termes en français avec leurs correspondants dans 34 langues oubanguiennes, dans une transcription scientifique établie à partir d'enquêtes de terrain inédites, et des cartes linguistiques originales." The first part of the book contains an assessment of the current status of Ubangian research and the following chapters, written by various member of LACITO: Le groupe gbaya-manza-ngabaka, Le groupe ngbandi-sango-kpatiri, *Le kpatiri ou gbayi, une nouvelle langue du groupe ngbandi*, Le groupe sere-ngbaka-mba, Le groupe banda, Le groupe zande, *Le geme ou jèmé, une nouvelle langue du groupe zande*.   The second part is a comparative lexicon of Ubangian languages.

Suzanne Ruelland. *Dictionnaire tupuri-français-anglais* (Région de Mindaoré, Tchad). Langues et Cultures Africaines 10. Leuven: Peeters/SELAF, 1988. Pp. 343. 178F.

[Résumé from p. 7]: "Tupuri is the language of some 250,000 people living in South-West Chad and North-East Cameroon. This trilingual dictionary presents abour 3600 terms in the dialect spoken in and around the village of Mindaoré, in the Fianga sous-préfecture, Chad. The transcription is phonological. Grammatical categories, which are now under study elsewhere in a dissertation on syntax, are noted for each term. Translations are in French ... and English ... . Certain dialect varieties from other regions in Chad are reported. Distinctive syntactic use of certain terms is exemplified in sentences and proverbs. The latter also illustrate cultural values attached to the items. Encyclopieic data concerning everyday life is given whenever possible. Drawings evoking non oral communication complete the work to which a French-Tupuri index is added."

J.W. Snyman (ed.). *Bushman and Hottentot Linguistic Studies, 1975*. Miscellanea Congregalia 2. Pretoria: Unisa, 1977. Pp. viii, 100. No price listed.

J.W. Snyman (ed.). *Bushman and Hottentot Linguistic Studies, 1977*. Miscellanea Congregalia 8. Pretoria: Unisa, 1979. Pp. viii, 61. No price listed.

J.W. Snyman (ed.). *Bushman and Hottentot Linguistic Studies, 1979*. Miscellanea Congregalia 16. Pretoria: Unisa, 1980. Pp. viii, 189. No price listed.

These are collections of papers presented at a series of seminars held at Witswatersrand and Unisa, beginning in 1974. The seminars are now incorporated into the conferences of the African Language Association of Southern Africa (ALASA) and are published as a supplement to the ALASA journal. Contents of these volumes are as follows: **(1975)** H. Honken, "Change of word order in Žu|'hõasi", A. Traill, "The tonal structure of !xõ", J.W. Snyman, "The pressed vowels of Žu|'hõasi", P. Dickens, "Source and goal in !xõ", and J.A. Louw, "Clicks as loans in Xhosa"; **(1977)** A. Traill, "The !xõo strength hierarchy", P.J.W.S. v.d. Westuizen, "Tydsaanduiding in Gobabis !Xũ", and A.S. Davey, "Some remarks on tonal realizations in

Nama—a preliminary survey"; **(1979)** J.W. Snyman, "The relationship between Angolan !Xũ and Žu|'hõasi", E.O.J. Westphal, "The age of 'Bushman' languages in Southern African prehistory", W.H.G. Haacke, "Nama 'coreferential copulative sentences' re-assessed", Alan Barnard, "Kin terminology systems of the Khoe-speaking peoples", P. Ladefoged & A. Traill, "Phonological features and phonetic details of Khoisan languages", and A. Traill, "Phonetic diversity in the Khoisan languages".

J.W. Snyman et al. *Segarona, Mophato wa 6*. Pretoria: Book Studio (Pty) Ltd, 1986. Pp. xvi, 432. No price listed.

This is a grammar of Tswana with exercises, written entirely in Tswana. It is one of a series of Tswana first language books for use in schools.

Zjuc'hoạ Orthography, No. 2 (Bushman). Windhoek: Department of National Education, 1987. Pp. 57 (English), 54 (Afrikaans), 1 map. No price listed.

This book lays out a practical orthography for the *Zjuc'hôa* language of northwestern Namibia and contiguous areas of Botswana. Not only does it present the sounds, but also comments on word division, which leads to a section including much grammatical information. A Zjuc'hôa word list illustrates the orthography. There is a foldout map showing the distribution of Namibian Bushman languages. The description of the orthography is provided in English and Afrikaans, starting at opposite ends of the book.

From Cambridge University Press

Rudolf P. Botha. *Form and Meaning in Word Formation: A Study of Afrikaans Reduplication*. Cambridge Studies in Linguistics, Supplementary Volume. Cambridge: Cambridge University Press, 1988. Pp. x, 187. Cloth, $29.95.

[From the back cover]: "This study of reduplication in Afrikaans provides a unified and principled analysis of an unusual and highly complex word formation process, shedding new light on the scope and content of various fundamental lexicalist principles of word formation. Surprisingly, Rudolf Botha concludes that the principles involved in Afrikaans reduplication are not unique to Afrikaans, as has often been thought, and are used by many other languages. Moreover, the interpretation of Afrikaans reduplications depends on principles of conceptual structure that are restricted neither to Afrikaans nor to the interpretation of reduplication, thus supporting recent work on cognition and meaning undertaken by Ray Jackendoff and other scholars. In analysing the data, Professor Botha has also provided a concrete illustration of how the Galilean style of linguistic inquiry can fruitfully be applied in the study of word formation and meaning. The study thus represents an important theoretical and methodological advance which will be of as much interest for its method of inquiry and argumentation as for the fresh insights it provbides for scholars and researchers in the fields of morphology, word formation and semantics."

John A. Holm. *Pidgins and Creoles, Volume I: Theory and Structure*. Cambridge Langue Surveys. Cambridge: Cambridge University Press, 1988. Pp. xx, 257. Cloth $59.50, paper $19.95.

[From the book jacket]: "This first volume of Holm's major survey of pidgins and creoles provides an up-to-date and readable introduction to a field of study that has become established only in

the past few decades. Written for both students and general readers with a basic knowledge of linguistics, the book's original perspective will also attract apecialists in the field seeking a broad overview of the linguistic and sociolinguistic relationships between these languages. Restructured versions of English, French, Spanish, Dutch, Protuguese, and other languages arose during European colonial expansion, resulting in such creoles as Jamaican, Haitian, Papiamentu, and some one hundred others, as well as such semi-Creoles as Afrikaans, non-standard Brazilian Portuguese, and American Black English. Scholars have tended to work on particular language varieties in relative isolation rather than undertaking comparative research into the genesis, development, and structure of creoles, In writing this book, however, Holm draws on studies of a broad range of languages to make clear the extent of creoles' differences and similarities and to demonstrate how this challenges current linguistic theory. The core of this volume is a comparative study of creoles based on European languages in Africa and the Caribbean in terms of their lexical semantics, phonology, and syntax."

John Holm. *Pidgins and Creoles, Volume II: Reference Survey.* Cambridge Language Surveys. Cambridge: Cambridge University Press, 1989. Pp. xxvi, 259-704 (consecutive numbering from Volume I), 11 maps. Cloth $69.50, paper $24.95.

[From the book jacket]: "This second volume of John Holm's *Pidgins and Creoles* provides an overview of the socio-historical development of each of some one hundred known pidgins and creoles. Each variety is grouped according to the language from which it drew its lexicon--Portuguese, Spanish, Dutch, French, English, African and other languages. John Holm convincingly demonstrates the historical and linguistic reasons for this organization, which also enables the reader to perceive with ease the interrelationship of all varieties within each group. The section devoted to each variety provides a discussion of its salient linguistic features and presents a brief text, usually of connected discourse, with a morpheme-by-morpheme translation. Readers thus have access to data from all known pidgins and creoles in the world, and the volume provides possibly the most comprehensive reference source on pidginzation and creolization yet available."

From MRM, Inc. Language Research Center (published by Dunwoody Press)

Virginia Luling (ed.). *Somali-English Dictionary.* Wheaton: Dunwoody Press, 1987. Pp. viii, 605.

This dictionary is described as a "preliminary edition". It contains approximately 18,500 entries, based on *Qaamuuska Af-Soomaaliga* by Yaasiin C. Keenadiid. The introduction indicates some spelling variations based on dialect differeces and the basic phonological alternations. Nominal gender is shown by the masculine (*-ka*) or feminine (*-ta*) "definitives". Verbal entries consist of the singular imperative and the third masculine singular past, which allow prediction of all other verb forms. An appendix contains conjugations of irregular verbs.

John Ibrahim Saeed. *Somali Reference Grammar.* Wheaton: Dunwoody Press, 1987. Pp. xiv, 275. No price indicated.

This is the first grammar of Somali in English. The author's intention is to provide a description of Somali which is accessible to non-linguists. The Introduction briefly defines "Standard Somali", which the book describes. The lexical categories necessary for the description are laid out, and this is followed by a discussion of grammatical functions and syntactic roles, necessary for an understanding of the focus system. Titles of the descriptive chapters are as follows: Sounds and

Orthography, Verbs, Nouns and Simple Noun Phrases, Adjectives, Prepositions, Simple Sentences, Subordinate Clauses, Coordination, and Time Expressions. The book ends with a bibliography of works on Somali and an index of grammatical terms.

From SELAF

Jean Delheure. *Agerraw n Iwalen Teggargrent-Taṛumit (Dictionnaire ouargli-français)*. Etudes Ethno-Linguistiques Maghreb-Sahara, 5. Paris: SELAF, 1987. Pp. xii, 495, 1 map. No price given.

[Abstract provided at beginning of book]: "This is the first dictionary dealing with the Berber language spoken at Ouargla and Ngoussa, two oases in the north of the Algerian Sahara. It is intended primarily for the Berber-speaking people of those two oases, as well as for other Berber-speaking people of the Maghreb. These will be made aware once more of the basic unity of their tongue, notwithstanding dialectal and regional variants. ... This dictionary is illustrated with a stock of current examples, idioms, proverbs, and sayings, and follows the modern way of classifying words according to their roots. ... ." The entries are thus organized according to consonantal root structure. A French-Ouargli index provides the basic Ouargli word to translate the French as well as the root under which to look for the word.

Jean Delheure. *Vivre et mourir à ouargla (Tameddurt t-Tmettant Wargren)*. Etudes Ethno-Linguistiques Maghreb-Sahara, 7. Paris: SELAF, 1988. Pp. 437. No price given.

This is a collection of ethnographic texts with French translation. [Abstract from the beginning of the book]: "Wargla is well-known: it is the largest oasis in Northern Sahara and the main centre for the production of Algerian petrol. But who knows of its inhabitants, especially the city-dwellers, whose ancestors peopled the oases in ancient times? A fraction of them, the thousands only, still keep using their ancient Berber language, and live by their traditional customs. The texts presented here, *Living and Dying at Wargla*, make us know the oasis, the old city and its inhabitants. They give us an insight into the mentality of the Warglis, their approach to religion, their practices, their patterns of behaviour both at social and individual level. These texts, rich as they are, were received under dictation from the Warglis themselves, and through them we discover many surprising and interesting features of their life. ... The French translation, with some notes added, follows closely the Berber text."

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