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Rules and construction effects in learning the argument structure of verbs*

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ABSTRACT

Theorists of language acquisition have long debated the means by which children learn the argument structure of verbs (e.g. Bowerman, 1974, 1990; Pinker, 1984, 1989; Tomasello, 1992). Central to this controversy has been the possible role of verb semantics, especially in learning which verbs undergo dative-shift alternation in languages like English. The learning problem is somewhat simplified in Bantu double object constructions, where all applicative verbs show the same order of postverbal objects. However, Bantu languages differ as to what that order is, some placing the benefactive argument first, and others placing the animate argument first. Learning the language-specific word-order restrictions on Bantu double object applicative constructions is therefore more akin

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to setting a parameter (*cf.* Hyams, 1986). This study examined 100 three- to eight-year-old children's knowledge of word order restrictions in Sesotho double object applicatives. Performance on forced choice elicited production tasks found that four-year-olds showed evidence of rule learning, although eight-year-olds had not yet attained adult levels of performance. Further investigation found lexical construction effects for three-year-olds. These findings suggest that learning the argument structure of verbs, even when lexical semantics is not involved, may be more sensitive to lexical construction effects than previously thought.

INTRODUCTION

Researchers of language acquisition have long been interested in how children learn the argument structure of verbs (e.g. Bowerman, 1974, 1990; Pinker, 1984, 1989). This is part of the more general problem of how language learners avoid making overgeneralizations (Baker, 1979; Baker & McCarthy, 1981). Proposals have ranged from innatist views to lexical or construction theories of learning. For example, Pinker (1989) suggests that children come equipped with an innately given set of semantic verb classes and a set of thematic linking rules that might facilitate learning the syntax of verbs. This view predicts certain semantic overgeneralizations, including misclassification of verbs with respect to the semantic class to which they belong.

This semantic bootstrapping view has recently been challenged by proponents of construction grammar (e.g. Goldberg, 1995). These researchers suggest that young children initially learn verbs and their arguments as unanalysed lexical constructions, and only later begin to categorize verbs into productive verb classes (e.g. Tomasello, 1992; Lieven, Pine & Baldwin, 1997). Such a view predicts few early overgeneralization errors, but also little flexibility with respect to the syntactic frames in which verbs are used.

A third, emergentist position is intermediate between these two (Bowerman, 1974, 1990; Naigles, 1996). Bowerman (1990) proposed that children may begin to classify verbs from the beginning of language acquisition, but that verb classes are constructed through positive evidence from the ambient language. Thus, though errors such as the well-documented cases of causative overgeneralizations may be made along the way (e.g. Bowerman, 1974), children have some idea about verb classes from very early in the acquisition process.

Some of the controversy surrounding the issue of when and how verb–argument structure is learned is confounded in English due to the lack of overt morphological marking of grammatical relations on the verb and the very narrow semantic classes of verbs to which certain operations apply. For example, a consideration of English dative shift constructions shows that

word order constraints on objects are determined by the lexical semantics of the verb, with recipient-like objects freely reordering (1), but mere benefactives not (2) (*cf.* Oehrle, 1976; Goldsmith, 1980; Stowell, 1981).

(1) a. Joe is painting a portrait for Sally.
b. Joe is painting Sally a portrait.

(2) a. Hillary is parking the car for Bill.
b. *Hillary is parking Bill the car.

Learning the restrictions on English dative shift constructions therefore requires learning specific lexical semantic relations, a process that often extends into the teenage years for low-frequency, multisyllabic Latinate verbs (e.g. *donate* vs. *give*) (*cf.* Mazurkewich & White, 1984; Randall, 1992). We suggest that this has contributed to some of theoretical controversy regarding how the argument structure of verbs is learned, especially in the domain of double object constructions (*cf.* Waryas & Stremel, 1974; Cook, 1976; Osgood & Zehler, 1981; Roeper, Lapointe, Bing & Tavakolian, 1981; Gropen, Pinker, Hollander, Goldberg & Wilson, 1989; Snyder & Stromswold, 1997).

In contrast, learning the syntactic constraints on the order of postverbal objects in Bantu double object applicative constructions should be much easier. First, the word order constraints apply to all verbs in a given Bantu language (Machobane, 1989; Bresnan & Moshi, 1990). Second, all the verbs are morphologically marked with an applicative morpheme, uniquely identifying the class of verbs to which these syntactic word order constraints apply (e.g. Sesotho *pheha* 'cook' > *pheh-el-a* 'cook for'). Since these morphemes are extremely productive, occurring with a broad range of verb classes and with fairly predictable semantic consequences, the problem of learning the syntactic restrictions on verbs can be separated from issues of learning verb semantics. Thus, Bantu languages, and double object applicative constructions in particular, provide an ideal testing ground for examining the learning of verb–argument structure when verb semantics is not a factor, reducing the learning problem to one of parameter-setting (Hyams, 1986). Under these simplified learning conditions it is then possible to focus on how and when the parameter is set, and if any lexical or construction effects are found (e.g. Tomasello, 1992). For example, if rule-like performance is affected by the frequency of the verb in the ambient language this would provide support for a more lexical rather than rule-based or parameter-setting approach to learning the syntax of verbs.

Previous research on children's spontaneous use of Sesotho applicative constructions shows that two- to three-year-olds productively use the applicative morpheme, alternating between applicative and non-applicative uses of the same verb (Demuth, 1998). In addition, they use ditransitive

applicatives with a number of different surface realizations of arguments, either as postverbal NPs (double object constructions), as preverbal pronominal clitics, or as null objects (Demuth, Machobane & Moloi, 2000). It therefore appears that very young children have some productive knowledge of these constructions, and that investigating this knowledge experimentally would be appropriate.

However, a survey of the Sesotho Corpus (98 hours of child–adult spontaneous speech interactions) shows only 11 examples of double object applicatives, only 2 of these produced by adults. That is, these constructions rarely appear in the input children hear. This is due to discourse/pragmatic processes of preverbal object clitic pronominalization and unspecified object deletion/topical object drop (Demuth *et al.*, 2000). Thus, although the syntactic restrictions on Sesotho double object applicative constructions should be easy to learn, the fact that these constructions are infrequent in the input may mean that they take longer to learn than might otherwise be expected.

The purpose of this study was therefore to evaluate how children's learning of the argument structure of verbs proceeds when word-order parameter-setting, rather than verb semantics, is involved. The rest of the paper is organized as follows: the first section provides an overview of the applicative syntax of Bantu languages in general, and Sesotho more specifically. We then describe the forced choice elicited production experiment designed to elicit double object applicatives from children and adults. In the subsequent section we present the results of the experimental study and an analysis of children's repairs. We then discuss the results of the experiment in light of lexical frequency/construction effects. Finally, we conclude with a discussion of the theoretical import of these findings for learning the argument structure of verbs, and for parameter-setting approaches to language acquisition more generally.

Sesotho double object applicatives

The applicative morpheme in Bantu languages is generally infixed toward the end of the verb stem, adding another argument to the verb. In the case of a transitive verb, adding the applicative morpheme renders the verb ditransitive. This is illustrated below, where (3a) is the transitive form of the verb *pheha* 'cook', and (3b) is the ditransitive (double object) applicative form *phehela* 'cook for'.[1]

[1] A modified (more phonetically transparent) version of Lesotho orthography has been used. Glosses are as follows: AGR = subject–verb agreement, APL = applicative, FUT = future tense, FV = final vowel (mood), OBJ = pronominal object, PASS = passive, PRF = perfect.

(3) a. Bana ba-pheh-a nama
children AGR-cook-FV meat
'The children are cooking meat'

b. Bana ba-pheh-el-a mme nama
children AGR-cook-APL-FV mother meat
'The children are cooking meat for my mother'

Bantu applicatives are used with a broad range of verbs. Applicative arguments may take the thematic role of benefactive, locative, goal, reason, and in some languages, instrument.[2] The thematic role most frequently associated with the applicative is the benefactive; thus, these are sometimes called benefactive constructions. In this study we were primarily interested in double object applicatives that take a benefactive applicative argument, though reason arguments will be discussed as well.

The study of Bantu double object applicatives has long been a topic of interest to syntacticians, and is one of the constructions best studied across Bantu languages (e.g. Sesotho – Morolong & Hyman, 1977; Machobane, 1989; Haya – Duranti & Byarushengo, 1977; Hyman & Duranti, 1982; Chichewa – Marantz, 1984; Baker, 1988; Alsina & Mchombo, 1990; Kichaga – Bresnan & Moshi, 1990; Chishona – Harford, 1993). This is due to the fact that Bantu languages typically have few prepositions, raising the issue of which object is the 'true' object of the verb. One of the tests for objecthood is whether the noun phrase can pronominalize (become a preverbal pronominal clitic), and whether it can become the subject of a passive. Bresnan & Moshi (1990) have characterized this as a parameter of variation where languages showing object properties for both object NPs are characterized as symmetrical languages (e.g. Kihaya, Kimeru, Mashi, Luya and Chichewa-B), and those showing restricted object properties are characterized as asymmetrical languages (e.g. Kiswahili, Chimwini, Hibena, Chichewa-A). Importantly, symmetrical languages permit unspecified object deletion of the theme argument, whereas asymmetrical languages do not. Equally important, both symmetrical and asymmetrical languages have benefactive + theme word order after the verb, unless discourse focus is involved (e.g. Moshi, 1999). Given this typology of applicative syntax, one can ask how this parameter of variation might be learned. How do children determine that they are learning a symmetrical language such as Kichaga rather than an asymmetrical language like Kiswahili? Presumably they would need to consider which objects undergo pronominalization and passivization, and whether unspecified themes are dropped or not.

[2] Although psych verbs can also take an applicative morpheme, they take a sentential complement (Machobane, 1989).

The situation is more complex in Sesotho – a symmetrical object language where the animate (rather than the benefactive) object must occur immediately after the verb (Morolong & Hyman, 1977; Machobane, 1989). If both objects have equal animacy (i.e. both animate or both inanimate), either order of objects is permitted, with the resulting ambiguity seen in the (i) and (ii) readings in (4).

(4) a. Thabo o-shap-el-a Mpho bana
Thabo AGR-beat-APL-FV Mpho children
i. 'Thabo beats the children for Mpho'
ii. 'Thabo beats Mpho for the children'

b. Thabo o-shap-el-a bana Mpho
Thabo AGR-beat-APL-FV children Mpho
i. 'Thabo beats the children for Mpho'
ii. 'Thabo beats Mpho for the children'

However, if the animacy of the objects differs, the animate object must occur immediately after the verb, regardless of thematic role. This accounts for the ungrammaticality of the (b) sentences below, where the animate argument in (5) is a benefactive, and in (6), a theme.

(5) a. Banana ba-pheh-el-a mme nama
girls AGR-cook-APL-FV mother meat
'The girls are cooking meat for my mother'

b. *Banana ba-pheh-el-a nama mme
girls AGR-cook-APL-FV meat mother
'The girls are cooking my mother for the meat'

(6) a. Thabo o-rat-el-a Neo bohale
Thabo AGR-like-APL-FV Neo temper
'Thabo likes Neo for her temper'

b. *Thabo o-rat-el-a bohale Neo
Thabo AGR-like-APL-FV temper Neo
'Thabo likes Neo for her temper'

Both benefactive and theme arguments can pronominalize as a preverbal object clitic (7a, b). Note also that the lexical theme can be optionally dropped as part of 'unspecified object deletion'(7a′, b′). This is indicated in the English gloss by the arguments in parentheses.

(7) a. Banana ba-mo-pheh-el-a nama
girls AGR-OBJ_{ben}-cook-APL-FV $meat_{theme}$
'The girls are cooking the meat for her'

a′. Banana ba-a-mo-pheh-el-a
girls AGR-PRES-OBJ$_{ben}$-cook-APL-FV
'The girls are cooking (the meat) for her'

b. Banana ba-e-pheh-el-a mme
girls AGR-OBJ$_{theme}$-cook-APL-FV mother$_{ben}$
'The girls are cooking it for my mother'

b′. Banana ba- pheh-el-a mme
girls AGR- cook-APL-FV mother$_{ben}$
'The girls are cooking (it) for my mother'

Pronominalization and passivization in Sesotho interact with animacy, the theme being prohibited from these operations if the benefactive is inanimate and the theme animate (Morolong & Hyman, 1977). However, an examination of the Sesotho corpus shows that such situations are extremely rare: no cases of this distribution of animacy were found in the entire corpus. Thus, learners must rely on postverbal word order in Sesotho double object applicatives to determine that animacy plays a role in object relations in this language.

The diversity of syntactic restrictions found in Bantu double object applicatives, and the relevance of animacy in Sesotho, raises questions regarding how the language-specific restrictions on these constructions are learned. Are there, perhaps, some innate predispositions, such as Pinker's (1984) proposed thematic linking rules, that might lead learners to posit a default initial word order until the language-specific parameter has been determined (Hyams, 1986)? For example, might children initially place the benefactive or some other applicative argument (e.g. locative, goal, reason) next to the verb, regardless of animacy? If so, we would predict systematic overgeneralizations to occur early in the learning process. We might also expect all Bantu language learners to show the same early word order preferences.

Alternatively, it could be that children initially learn double object applicatives verb by verb as lexicalized constructions (e.g. Tomasello, 1992; Lieven *et al.*, 1997). This view would predict that each lexical item will be used with the syntactic frame in which it was initially heard, the syntax of applicative constructions only becoming productive at a later point in development. Such a view would predict few errors in spontaneous speech, but also little flexibility with the multiple surface syntactic frames in which these verbs can be used (e.g. with lexical, pronominal clitic and null objects – *cf.* (5) and (7) above). We would also expect to find lexical frequency effects in experimental tasks, where children would perform better on some stimuli and worse on others as a function of verb frequency in the input.

On the other hand, we might predict a more middle ground, where children exhibit productive awareness of the syntax of double object applicative

constructions early in the acquisition process, but where their use of these constructions is not yet completely adult-like. Such a view would be more consistent with proposals by Bowerman (1990) where children exhibit some aspects of syntactic knowledge, but where some lexical and other aspects of grammar are still to be fully mastered. In order to test these hypotheses we conducted a forced choice elicited production experiment to examine children's and adults' knowledge of Sesotho animacy effects on the word order of Sesotho double object applicatives.

METHOD

The goal of the experiment was to assess children's underlying knowledge of the word order constraints on Sesotho double object constructions. The study was therefore designed to determine when Sesotho-learners know that the animate (rather than benefactive) argument must be placed immediately after the verb. Several different experimental methods could have been used to explore these issues (*cf.* Waryas & Stremel, 1974; Gropen *et al.*, 1989). Since previous investigation of Sesotho-speaking children's spontaneous speech had shown that they occasionally produced double object applicative constructions by 2;8 (Demuth, 1998), and that these constructions are generally used when both objects are introduced into the discourse for the first time (Demuth *et al.*, 2000), it was decided that a forced choice elicited production task, where both postverbal word orders were modelled with no previous discourse, would most effectively tap children's underlying grammatical knowledge of these constructions (*cf.* Thornton, 1996).

In pilot research we presented subjects with two puppets who were 'learning Sesotho'. Each puppet said the same sentence with different postverbal word order, and children were asked to produce the sentence which was best. Children generally repeated the last sentence that was modelled, treating the experiment as an elicited imitation task. Although this type of task has been successfully used to tap children's underlying knowledge of word order restrictions (e.g. Lust & Wakayama, 1981), we found that children generally repeated whatever they heard last, showing no sensitivity to word order effects. We therefore decided to introduce a 'distracter' between the modelled sentence pairs and the elicited production to avoid recency effects. This distracter took the form of a 'grammaticality judgement task' where children were asked to indicate which puppet spoke best.

In a subsequent pilot we asked children to listen to the two puppets who were learning Sesotho, point to the puppet that spoke 'the best Sesotho', and then tell us what that puppet had said. This task therefore employed a forced choice grammaticality judgement task, followed by a delayed forced choice elicited production task. The younger children did not attend to the

TABLE 1. *Subjects*

Number	Age group	Mean age (yr)	Age range
20	3-year-olds	3;4	(3;0–3;11)
20	4-year-olds	4;6	(4;0–4;10)
20	5-year-olds	5;5	(5;0–5;11)
20	6-year-olds	6;4	(6;0–6;11)
20	8-year-olds	8;4	(8;0–8;10)
20	Adults		(21–58)

grammaticality judgement task, generally picking one puppet as always right, or picking the last puppet to speak as always right. It was also found that children's grammaticality judgement responses had no correlation with their elicited productions. Although grammaticality judgements can be used with young children (e.g. McDaniel & Cairns, 1996), we suspect that it was not useful here due to the fact that subjects knew a production task was coming, and were therefore probably not concentrating on the judgement task as much as they otherwise might have.

On the other hand, the elicited productions now seemed to be tapping children's underlying grammatical knowledge of double object applicative constructions. Further support for this came from the fact that children occasionally inserted words into their responses that were not present in either of the modelled forms, resulting in 'repairs' that better met their grammatical requirements for these constructions (see sections below on coding and analysis of repairs). It was therefore decided that the forced choice elicited production task would be most effective at determining when subjects learn that animacy plays a role in Sesotho postverbal word order, and that the 'grammaticality task' would be used only as a distracter.

Subjects

The experiments were conducted in the southern African country of Lesotho. Child subjects were drawn from Sesotho-medium pre-schools and primary schools in the capital city Maseru and the university area in Roma, and included 100 children between the ages of 3;0 and 8;0 (see Table 1). Twenty adults were also tested at the National University of Lesotho in Roma and included lecturers, students and staff. The children were all monolingual speakers of Sesotho, English being introduced as a subject only in first grade. The adults were bilingual in Sesotho and English. Each age group was balanced for gender.

Stimuli

The stimuli consisted of five conditions, each containing 5 sentence pairs, for a total of 25 sentence pairs. All stimulus sentence pairs were composed of

TABLE 2. *Word order of stimulus conditions*

Condition	Orders of postverbal objects
Animate Benefactive	BEN TH *TH BEN
Animate Theme	TH REASON *REASON TH
Semantic Benefactive	BEN TH ~ TH BEN

common Sesotho verbs used in the applicative, resulting in two ditransitive constructions per verb that differed only in the order of postverbal objects. (e.g. 'I cooked the child the meat' vs. 'I cooked the meat the child'). These were constructed to be as short as possible to facilitate processing and production by the younger children. The stimuli therefore contained null-subject sentences with 8–11 syllables, where the verb was only inflected for the applicative (i.e. no other verbal extensions such as perfect aspect, passive, causative, or reciprocal were used) (*cf.* Demuth, 1998; Idiata, 1998).

Each of the five conditions differed in the animacy characteristics of the objects. Two conditions consisted of Equal Animacy stimuli, where both objects had the same animacy (both were either animate (Animate Object condition) or inanimate (Inanimate Object condition)). In both cases either order of objects was grammatical, with a resulting ambiguity in semantic interpretation. These conditions functioned primarily as fillers. Performance was expected to be random for all subjects in both these conditions, which it was (i.e. half of the first mentioned sentences were produced – *cf.* Demuth *et al.*, 2000). These conditions will therefore not be discussed in detail here.

The focus of the present study was on the Split Animacy conditions, where one of the objects was animate and the other inanimate. In the Animate Benefactive condition the benefactive was animate, and must be ordered immediately after the verb. In the Animate Theme condition the theme was animate and must be ordered immediately after the verb. In this condition the applicative argument took a reason thematic role.[3] Finally, the Semantic Benefactive condition was included as a control, where both objects were inanimate, but one was semantically the benefactive. The word order and grammaticality characteristics of the Animate Benefactive, Animate Theme and Semantic Benefactive conditions are summarized in Table 2, and the stimulus sentences used in Split Animacy and Semantic Benefactive conditions are found in the Appendix.

The order of objects was counterbalanced across stimulus sentence pairs (e.g. two or three stimuli sentence pairs from each condition had the 'correct'

[3] The reason thematic role was used instead of an inanimate benefactive since the latter is extremely rare in everyday spontaneous conversation, and inanimate arguments like 'meeting' are often treated as animate or as a location, especially if the theme is animate.

order of objects mentioned first). The stimulus sentence pairs from all five conditions were then quasi-randomized and divided into two blocks, with two or three sentence pairs from each condition placed in each block. Both blocks of stimuli were then audio recorded by the second author.

Procedure

The experiments took place in a quiet room on the school premises for the children and at the university for the adults. Subjects sat at a desk with the tape recorder, stereo speakers, a recording microphone and two or three experimenters. Subjects were familiarized with two hand puppets (a sheep and a panda bear whose mouths opened), and were explained the rules of the 'game'. They were told that both puppets came from another country (e.g. Switzerland) and were learning Sesotho. Sometimes they spoke good Sesotho and sometimes not. The subjects were asked to listen carefully as each puppet said a sentence. The prerecorded stimuli were played for the subjects out of speakers placed in front of them on a table. Each puppet was animated in turn by one of the experimenters – usually the third author, while a second experimenter played the next sentence pair from the audio tape. Subjects were asked to point to the puppet that spoke Sesotho the best. The experimenter then asked the subjects *O-itseng*? 'What did it say?'. After five practice trials, the test sentence-pairs were presented. All subject responses were recorded on a second tape recorder and marked by the second experimenter on a coding sheet. Half of the subjects (balanced for gender) heard the first block of stimuli first, and half heard the second block first. The younger children were given a break between the two blocks of stimuli. The child subjects were given an orange at the conclusion of the experiment. The entire procedure took approximately 20 minutes – sometimes less for the adults and longer for some of the younger children.

Most of the children enjoyed the task, especially the interaction with the puppets. Any child who could not carry out the task (i.e. produce one of the modelled stimuli) after a repeat of the five practice trials was discarded from the study. This consisted of five three- and four-year-olds, all of whom appeared to be tired or hungry and not attending to the task.

Coding

All subject responses were tape recorded during the experiment. A research assistant also manually checked subject responses on a score sheet as correct/incorrect as the experiment progressed. If subject responses included a change of object this was noted. If subject response included a change in *animacy* of one of the objects, this change and the subsequent order of objects was also noted, classified as a 'repair' and excluded from further analysis.

The first author was present at a subset of test sessions and also manually coded responses to ten percent of the stimuli. These were compared with the research assistant's manual coding, and were found to have a high degree of inter-coder reliability at 95%. The audio recordings were consulted to determine the correct coding for the remaining 5%, thus resolving all differences between the two coders.

For the Split Animacy conditions responses were coded as correct when the Animate object was produced immediately after the verb. Thus, in the Animate Benefactive condition, the correct response was with the benefactive argument produced immediately after the verb. In the Animate Theme condition, the correct response was with the Theme produced immediately after the verb. In the Semantic Benefactive condition, the 'correct' response was the one where the semantically benefactive object was produced immediately after the verb.

Occasionally subjects did not repeat either of the sentence stimuli. In a very few cases the sentences were left incomplete, constituting null responses. These were dropped from the analysis. If an object was changed but the animacy remained the same (e.g. *ntate* 'father' changed to *moruti* 'priest'), the response was analysed for grammaticality along with the rest of the responses. However, if the animacy of the objects was changed these responses were classified as 'repairs' and were excluded from the analysis. If subjects changed the animacy of more than four of the objects, they were dropped from the study. Two three-year-olds and two four-year-olds were classified as 'non-compliant' children and did not complete the study. Additional subjects were then recruited to ensure a total of 20 participants in each age-group.

Most repairs were produced by the younger children and tended to occur on conditions where the animacy of the objects was equal. The most frequent repair was to make the argument next to the verb animate and the second object inanimate, mirroring the fact that the majority of double object applicatives in Sesotho take an animate benefactive and an inanimate theme. These repairs therefore provide additional evidence that the task was tapping children's underlying awareness of the grammatical structure of these constructions. These constructions will be discussed further below.

Predictions

Since the experiment involved a forced choice between two options, chance performance was 50%. Performance at this level therefore shows no preference for postverbal word order in Sesotho double object applicatives. However, if subjects performed above chance, this would indicate some knowledge/preference for certain word orders. We therefore predicted that, if subjects were aware of the animacy effects on word order in Sesotho double

object applicatives they would perform above chance (above 50%) on both the Animate Benefactive and Animate Theme conditions. This would indicate that they had learned the Sesotho grammatical rule for placing the animate object after the verb, regardless of thematic role. Alternatively, if subjects performed at chance on these conditions, this would indicate a lack of awareness of the animacy effects on Sesotho double object applicative word order. If, on the other hand, performance on the Animate Benefactive and Semantic Benefactive conditions were both high, this would indicate that subjects were using a semantic approach to Sesotho word order. In either case, if a rule was being used, we would expect consistency across lexical items within a condition. Alternatively, if subjects performed better on some lexical items than others within a condition, this might provide support for a more lexicalist or construction grammar approach to learning the argument structure of Sesotho double object applicatives.

RESULTS AND ANALYSIS

For each of the test conditions there were 5 items per subject, and 20 subjects, yielding a total of 100 items per condition for each age group. If subjects did not successfully repeat one of the target sentences, these errors/repair items were not counted in the total, resulting in fewer than the target 100 tokens per condition. Errors on each condition were as follows: Animate Benefactive condition: seven errors for three- and four-year-olds; Animate Theme condition: two errors for three-year-olds; Semantic Benefactive condition: twelve errors for three- to eight-year-olds. We return to a discussion of these errors later.

As described previously, the 5 items from each condition were quasi-randomized and divided into two blocks, with the order of presentation of the two blocks counterbalanced across subjects. The effect of order of presentation on subjects' performance was examined by constructing 2×2 contingency tables indicating the frequency of correct and incorrect responses generated within the first and second blocks of items. Tabulated across all age groups, there were no effects of presentation order on frequency of responses in any of the three test conditions (all Yates-corrected $\chi^2(1)$'s $< 0{\cdot}13$; all p's $> 0{\cdot}70$). Similar findings were found when response frequencies were tabulated separately for each age group (all but two $\chi^2(1)$'s $< 0{\cdot}9$; p's $> 0{\cdot}34$), although in the Semantic Benefactive condition a trend for an order effect was observed for the three-year-olds ($\chi^2(1) = 1{\cdot}98$; $p = 0{\cdot}16$) and for the five-year-olds ($\chi^2(1) = 2{\cdot}76$; $p = 0{\cdot}10$). However, these trends do not indicate any significant learning effect across blocks.

Collapsed across block, the mean percentages of correct responses produced by the six age groups in each test condition are presented in Table 3. These percentages were analysed by a (3) test condition: animate

TABLE 3. *Mean percentage (and standard deviation) of animate/semantic arguments placed immediately after the verb*

	Conditions		
Age group	Animate Benefactive	Animate Theme	Semantic Benefactive
3-year-olds	0·51 (0·19)	0·66 (0·16)**	0·52 (0·23)
4-year-olds	0·64 (0·21)*	0·68 (0·16)**	0·54 (0·19)
5-year-olds	0·71 (0·23)**	0·78 (0·18)***	0·53 (0·17)
6-year-olds	0·72 (0·28)*	0·72 (0·19)***	0·55 (0·25)
8-year-olds	0·81 (0·15)***	0·85 (0·13)***	0·51 (0·20)
Adults	0·95 (0·9)***	0·95 (0·9)***	0·78 (0·19)***

* Significantly better than chance (0·50), $p < 0·01$.
** Significantly better than chance (0·50), $p < 0·001$.
*** Significantly better than chance (0·50), $p < 0·0001$.

benefactive, animate theme, semantic benefactive × (6) age group multivariate analysis of variance (MANOVA) where age was a between subjects factor and condition was a within subjects condition. Analysis using Pillai's trace statistic revealed significant main effects of both test condition ($F(2, 113) = 42·69$, $p < 0·001$) and age group ($F(5, 114) = 17·97$, $p < 0·001$). A significant interaction between the two was also observed ($F(10, 228) = 2·04$, $p < 0·05$), indicating that the age groups performed differently across the three test conditions, as expected. Given this significant main effect we examine performance on each condition separately below.

Animate Benefactive condition

A univariate ANOVA indicated significant differences in performance among the 6 age groups in the Animate Benefactive condition ($F(5, 114) = 11·33$, $p < 0·001$). Follow-up Tukey comparisons showed that three-year-olds performed significantly worse than five-year-olds ($p = 0·019$), six-year-olds ($p = 0·012$) and eight-year-olds ($p < 0·001$). However, there were no significant differences among the older child age groups. All child age groups, except eight-year-olds, performed significantly worse than adults ($p < 0·01$ for all groups). Finally, three-year-olds performed at chance (i.e., 50%) on this condition ($t(19) = 0·12$, $p = 0·91$), while all other child age groups and the adults were above chance (all $t(19)$'s $> 2·96$, p's $< 0·01$). This indicates that from at least 4;0, Sesotho-speaking children have some awareness that the animate object must occur next to the verb, even if their performance is inconsistent.

Animate Theme condition

We then investigated performance on the Animate Theme condition. A univariate ANOVA (6 age groups) showed significant differences in

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performance among the 6 age groups on the Animate Theme condition ($F(5, 114) = 10{\cdot}26$, $p < 0{\cdot}0001$). Follow-up Tukey analyses showed that three-year-olds performed significantly worse than eight-year-olds ($p = 0{\cdot}002$), as did four-year-olds ($p = 0{\cdot}01$). There was no significant difference in performance between the three older child age groups. Again, all child age groups, except eight-year-olds, performed significantly worse than adults ($p < 0{\cdot}001$ for three-, four-, and six-year-olds; $p = 0{\cdot}01$ for five-year-olds). Finally, all child age groups and adults were above chance in this condition (all $t(19)$'s $> 4{\cdot}23$, p's $< 0{\cdot}001$). This shows that even three-year-olds know the correct word order when the animate argument is a theme. That is, three-year-olds performed better on this condition than on the Animate Benefactive condition.

We had also predicted that, if subjects showed an awareness of animacy effects, the pattern of performance on the Animate Benefactive and Animate Theme conditions would be the same. This prediction was largely confirmed. First, a (2) Animate Benefactive vs. Animate Theme test condition × (6) age group MANOVA failed to reveal a significant interaction between test condition and age group ($F(5, 114) = 0{\cdot}981$, $p = 0{\cdot}432$), although both main effects did reach significance (test condition: $F(1, 114) = 4{\cdot}72$; $p < 0{\cdot}05$; age group: $F(5, 114) = 20{\cdot}57$, $p < 0{\cdot}001$). Second, paired-sample t-tests indicated that there was no significant difference in performance between the Animate Benefactive and Animate Theme conditions for any age group (all $t(19)$'s $< 1{\cdot}07$, p's $> 0{\cdot}297$) except the three-year-olds ($t(19) = 3{\cdot}10$, $p < 0{\cdot}01$), who performed above chance on the Animate Theme ($t(19) = 4{\cdot}23$, $p < 0{\cdot}001$) but not the Animate Benefactive condition. Possible explanations for this difference will be discussed in the section on lexical construction effects.

Semantic Benefactive condition

We then examined performance on the Semantic Benefactive condition. A univariate ANOVA indicated a significant effect of age group on the Semantic Benefactive condition ($F(5, 114) = 5{\cdot}44$, $p < 0{\cdot}001$). Follow-up Tukey analyses showed that there were no significant differences between any of the child age groups (p's $> 0{\cdot}99$). However, all child age groups performed significantly worse than the adult group (p's $< 0{\cdot}004$). Moreover, all of the child age groups were found to perform at chance (all $t(19)$'s $< 0{\cdot}96$, p's $> 0{\cdot}35$), indicating that none of the children used a 'benefactive first' strategy.

We had also predicted that an awareness of the difference between placing the animate vs. benefactive argument immediately after the verb would be shown if performance on the Semantic Benefactive condition differed significantly from performance on the Animate Benefactive condition. Consistent with this prediction, a (2) Animate Benefactive vs. Semantic

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Benefactive test condition × (6) age group MANOVA revealed a significant condition by group interaction ($F(5, 114) = 3{\cdot}21$, $p = 0{\cdot}01$), as well as significant main effects of both test condition ($F(1, 114) = 39{\cdot}44$, $p < 0{\cdot}001$) and age group ($F(5, 114) = 11{\cdot}56$, $p < 0{\cdot}001$). Paired-sample *t*-tests indicated that there was no significant difference in performance between the Semantic Benefactive and the Animate Benefactive conditions for the three- and four-year-olds ($t(1, 19) = 0{\cdot}26$, $p = 0{\cdot}80$ and $t(19) = 1{\cdot}43$, $p = 0{\cdot}17$), but there were significant differences for the three older child age groups (for five-year-olds: $t(1, 19) = 2{\cdot}91$, $p < 0{\cdot}01$; for six-year-olds: $t(1, 19) = 2{\cdot}62$, $p < 0{\cdot}05$; for eight-year-olds: $t(1, 19) = 8{\cdot}02$, $p < 0{\cdot}001$). This means that, at least by 5;0, Sesotho-speaking children are aware that the order of applicative objects is not due to simply placing the benefactive argument after the verb.

The results for the adults are somewhat different, with semantic benefactive arguments being placed next to the verb 78% of the time. This indicates that adults have a tendency to place the benefactive argument after the verb even when the animacy of the arguments is equal (in this case both inanimate). However, a paired-sample *t*-test showed that their performance on this condition differed significantly from performance on the Animate Benefactive condition ($t(1, 19) = 3{\cdot}85$, $p = 0{\cdot}001$), indicating that the animacy effect is stronger than the 'benefactive first' effect for adults as well.

In sum, all child age groups showed some awareness of animacy effects on word order, yet none of the child age groups performed as well as adults. This indicates that rule-like behaviour takes some time to apply to Sesotho double object applicatives, even though the constraints are not conditioned by the semantics of the verb. Possible explanations for these findings are discussed below. But first, we examine some of the repairs made by the younger children, which shed some light on these children's underlying grammatical system at this point in time.

Analysis of repairs

As mentioned above, this was a challenging task for three- and four-year-olds, requiring careful attention to the two stimulus sentences given, and taxing subjects' sentence processing as well as sentence production abilities. The repairs reveal much about children's underlying knowledge of double object applicative constructions. Almost all occurred on stimuli where the animacy of the objects was equal (e.g. the Semantic Benefactive conditions), where children changed one of the inanimate objects into an animate object, resulting in a grammatical animate–inanimate order of objects after the verb (*cf.* Demuth *et al.*, 2000). For example, a sentence such as *ba rekela jase konopo* 'they're buying a button for the coat' would be changed into something like *ba rekela ntate konopo* 'they're buying a button for the father'. Thus, although children did not perform according to what was asked for in the task, they nonetheless produced grammatical sentences.

It therefore appears that for some of the younger children the optimal form of the double object applicative takes an animate benefactive and an inanimate theme. An examination of the Sesotho corpus indicates that out of the 990 ditransitive applicatives that take a benefactive argument, only one benefactive was inanimate, and no themes were animate. Thus, some of the younger children appear to be highly sensitive to the robust semantic properties of the input, and seem to require that the thematic roles of the objects in double object applicatives adhere to the high frequency semantic (animacy) characteristics found in the ambient language (*cf.* Osgood & Zehler, 1981). Critically, they also used appropriate word order when changing the animacy of the objects, placing the animate benefactive immediately after the verb, showing an awareness of the distributional properties of these constructions as well.

We might have expected subjects who made repairs on the Semantic Benefactive condition to perform better on the Animate Benefactive condition than their peers. However, despite the fact that they showed a tendency to prefer one animate and one inanimate object, their performance on the animate benefactive stimuli did not differ significantly from the rest of the group. The twenty-four children (in all age groups) who made repairs on at least one of the three equal animacy conditions did perform slightly better on the Animate Benefactive condition (mean = 0·69, *S.D.* = 0·25) than children who did not make repairs ($n = 74$, mean = 0·67, *S.D.* = 0·23), but this difference was not significant ($t(98) = 0{\cdot}25$, $p = 0{\cdot}8$). It appears that having the benefactive argument be animate is more important than placing it next to the verb. We suspect that three- and four-year-olds are extremely sensitive to the high-frequency aspects of the input (i.e. that benefactives, even when they occur as pronominal clitics, are animate), and probably find such constructions both easier to parse/process and easier to produce. In contrast, they seem less aware of the syntactic constraints on object word order – presumably due to the fact that this information is much less frequent in the input they hear.

In sum, three-year-olds already have some awareness of the animacy effects on Sesotho double object applicative word order, but full competence with these constructions takes several years to achieve. In the next section we raise the possibility that these results show lexical construction effects. If so, this might help explain the gradual learning curve found in this study.

Lexical construction effects

At the beginning of this paper we predicted that the word order of objects in Bantu double object applicative constructions would be learned early and easily. Our prediction was based on the fact that, unlike in English dative shift constructions, the lexical semantics of verb classes does not interact with

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the order of objects in Bantu double object applicatives. Thus, we expected that as soon as children determine the word order parameter of these constructions (benefactive argument ordered first in Kiswahili, animate argument ordered first in Sesotho), they should apply it to all double object applicative verbs they encounter. The results from the present study, however, show that four-, five-, and six-year-olds only performed at around 70% correct in placing the animate object after the verb. What accounts for this variable performance?

There are several possible explanations for the gradual learning curve found here. First, it could be that task effects, such as problems with perception, memory, or production, may have masked children's underlying knowledge of these constructions. If this were the case, however, we would have expected random results on all three conditions. The fact that all child age groups (except three-year-olds) performed significantly above chance on the Animate Benefactive condition, and all but three- and four-year-olds' performance was significantly different on the Semantic Benefactive condition, points to the fact that differences in underlying grammatical representations were being tapped during the elicited production task. Alternatively, it could be that some of the gradient performance found was merely an artifact of grouped data. Perhaps individuals do show categorical behaviour, some having set the appropriate word order parameter and others not. This is difficult to assess with only 5 exemplars on each condition. Nonetheless this seems improbable since only one five-year-old, one six-year-old and three eight-year-olds (but 12 adults) performed at 100% on both the Animate Benefactive and Animate Theme conditions. Thus, a few eight-year-olds seem to have set the parameter, but the younger children have generally not. This would indicate that learning the appropriate parameter setting for the word order of Sesotho double object applicatives takes several years. Finally, although, this study only examined the acquisition of double object applicative constructions, inherently ditransitive verbs such as *fa* 'give' can also take two postverbal objects – a recipient and a theme, where the recipient object is always ordered immediately after the verb, regardless of animacy. Inherently ditransitive verbs occur much more frequently than do ditransitive applicative verbs, and therefore also occur more frequently as double object constructions with two postverbal NPs (0·91/h for inherently ditransitive verbs vs. 0·11/h for ditransitive applicatives). A cursory examination of inherently ditransitive verbs with two postverbal objects finds that the recipient argument is almost always animate, and is placed immediately after the verb. In the absence of abundant evidence regarding the constraints on double object applicative word order, perhaps learners construct their early grammars by analogy with recipient double object constructions. This possibility will need to be investigated in future research.

Alternatively, some of the variable performance found in this study might be due to lexical construction effects. Recall that, although ditransitive applicatives occur frequently in everyday Sesotho (13·6/h), double object applicatives are much less frequent (only 0·11/h). The low frequency with which these constructions are used and heard probably makes learning the syntactic restrictions that govern them much more difficult. Second, the fact that almost all ditransitive applicatives contained an animate benefactive and an inanimate theme means that learners are exposed to only a subset of possible double object applicative constructions. That is, even though there is some positive evidence that animate benefactives should be ordered before inanimate themes, there is practically no overt positive evidence or implicit negative evidence for determining word order effects under conditions when the applicative argument is not benefactive, or when the benefactive is not animate. Thus, it may be difficult to determine the nature of the syntactic restrictions on object word order. It is therefore not surprising that the syntactic constraints on object word order take some time to learn, or that children's repairs converted two objects of equal animacy into an animate benefactive and inanimate theme – the highest frequency constructions in the input.

We suggest, then, that the low frequency with which double object applicatives occur in Sesotho spoken discourse (and presumably in other Bantu languages as well) presents a challenge for learners. Given that there are no semantic verb class effects, a possible explanation for variable performance might be that familiarity with different verbs, or the frequency with which different verbs are used in the applicative, might correlate with performance. That is, lexical frequency effects and/or applicative construction effects might help account for subjects' less than perfect performance on the elicited production task.

The stimuli used in this study were selected to include commonly used verb roots. This was done to ensure that rule-based learning, if present, would emerge independent of lexical frequency effects. However, at the time the study was designed we did not yet have frequency counts on lexical items in the Sesotho corpus, let alone frequency counts on applicative verbs. *Post-hoc* analysis on both found that, whereas all verb roots used in the stimuli were attested in the Sesotho corpus, not all appeared in the applicative, and the frequency with which each verb root and applicative verb occurred in the Sesotho corpus varied considerably for stimulus verbs within and across test conditions.

To investigate the possible effects of verb frequency on subjects' performance, two types of verb frequency were calculated. Verb root frequency was calculated by counting each verb's occurrence in all its inflected and derived forms in the Sesotho corpus (e.g. tense, causative, applicative, reciprocal, etc.). Applicative verb frequency was calculated by counting only

instances of each verb as it occurred with the applicative morpheme in the Sesotho corpus. We then examined the associate between verb frequency and performance using Pearson's correlation coefficient. In this way we could determine which type of frequency effects language learners might be sensitive to, if any.

Though performance on different verbs within conditions varied, especially for the younger age groups, these differences did not correlate with verb root frequency except in the case of three-year-olds in the Animate Benefactive condition, where verb root frequency was found to be NEGATIVELY correlated with performance ($r = -0{\cdot}96$, $p < 0{\cdot}01$). There was no statistically significant correlation between applicative verb frequency and performance in the Animate Benefactive condition for any age group. There was only a slight tendency toward significance for the three-year-olds ($r = -0{\cdot}79$, $p = 0{\cdot}109$), indicating a non-significant decrease in performance with increase in frequency.

There were no significant correlations between root verb frequency and performance for any age group on the Animate Theme condition. However, applicative verb frequency showed a significant NEGATIVE correlation with performance for three-year-olds ($r = -0{\cdot}92$, $p < 0{\cdot}05$). There was also a trend toward significance for the four-year-olds ($r = -0{\cdot}84$, $p = 0{\cdot}074$) and eight-year-olds ($r = -0{\cdot}82$, $p = 0{\cdot}09$). Again the relationship was negative, with higher corpus frequencies associated with poorer performance. Thus, only three-year-olds showed significant effects of verb frequency on performance: in the Animate Benefactive condition performance correlated with verb root frequency, and in the Animate Theme condition performance correlated with applicative verb frequency.

The fact that the lexical frequency effect, when it occurs, is negative was unexpected. However, negative frequency effects are commonly found in psycholinguistic studies of both infants (Jusczyk & Luce, 1994) and adults (Luce, Pisoni & Goldinger, 1990) where a given linguistic stimulus 'competes' with another form. We suggest that the negative frequency effects found here arise from children's expectation that the applicative verbs they know will be found in high-frequency syntactic frames where the animate object is pronominalized as a preverbal object clitic (*ke-mo-pheh-et-se dijo* 'I him-cooked-for food'). That is, children do not expect high-frequency applicative verbs to be followed by two lexical objects (SVOO), and may have difficulty processing these constructions. We suspect that this processing difficulty may consume younger children's attentional resources, forcing them to focus more on the semantics/meaning of these constructions rather than on their syntax (i.e. the order of postverbal objects). The better performance on low-frequency applicative verbs would therefore indicate less competition from alternative surface syntactic frames. The same reasoning would account for the better performance by three-year-olds on

the Animate Theme condition compared to the Animate Benefactive condition: since 74% of ditransitive applicatives in the Sesotho corpus take a benefactive argument, the competition effects are much greater in this condition, resulting in overall poorer performance by the youngest subjects. In addition, the corpus frequency of the applicative verbs used in the Animate Benefactive condition was much higher overall than the frequency of the applicative verbs used in the Animate Theme condition. This might also have had an overall negative effect on three-year-olds' performance on this condition, and may help explain why three-year-olds performed above chance on the Animate Theme condition, but not on the Animate Benefactive condition.

These results indicate that three-year-olds (and four-year-olds to a lesser extent) are sensitive to lexical construction effects, despite the fact that even three-year-olds show an awareness of animacy effects on the Animate Theme condition. That is, the youngest children in this study show some knowledge of the syntactic constraints on Sesotho double object applicatives even though this is negatively influenced by the high frequency of other surface syntactic frames for a given verb. Obviously these results will need to be verified in further study with a greater number of verbs. However, they suggestively point to the possibility that both rule-based and construction-based types of learning are simultaneously present during the early stages of learning verb–argument structure. Interestingly, lexical construction effects appear to have more impact on the processing system, masking children's true 'knowledge' of the syntax of these constructions. This is evidenced by the fact that all of the 'repairs' resulted in grammatical word order for double object applicatives, and that two- to four-year-olds spontaneous use of these constructions also exhibited appropriate word order (Demuth *et al.*, 2000).

CONCLUSION

This study investigated 100 three- to eight-year-old children's knowledge of syntactic word order constraints in Sesotho double object applicative constructions. Using a forced choice elicited production task it found that four-year-old Sesotho-speaking children performed significantly above chance (50%) in correctly placing the animate object (rather than benefactive object) immediately after the verb. This showed that young Sesotho-learners have some knowledge of the language-specific word order constraints on double object applicative constructions. However, the study also found that most eight-year-olds were not yet consistent in their performance. Thus, despite the lack of semantic verb class effects like those found in English dative-shift constructions, learning the word order restrictions on Sesotho double object applicatives appears to be a gradual process. This

poses a challenge to rule-based, parameter-setting approaches to language acquisition.

Although double object applicative constructions have been extremely well-studied cross several Bantu languages (Bresnan & Moshi, 1990), an examination of the Sesotho corpus of child–adult spontaneous speech found that these constructions are rarely used in everyday discourse. This is due to the fact that benefactive objects are often pronominalized (becoming a preverbal clitic) and theme objects are often dropped from the discourse altogether (being realized as null objects). Thus, although no verb class learning is required to determine word order constraints on Sesotho double object applicatives, we suggest that the overall low frequency of these constructions, and the much higher frequency of alternative surface syntactic frames, results in a protracted period of variable performance on forced choice elicited production tasks. The presence of negative lexical frequency effects for three-year-olds on some conditions confirms this hypothesis: performance was worse on those verbs that most frequently occurred in the input in alternative surface syntactic frames (i.e. with preverbal pronominal clitics and/or null objects). The Sesotho findings thus provide further support for the general picture of the conservative learner (Gropen *et al.*, 1989; Naigles, 1996), where learning proceeds item by item (Roeper *et al.*, 1981) along with the development of syntactic generalizations.

It would appear that young language learners are extremely sensitive to the surface syntactic frames in which specific verbs appear and to the animacy characteristics of certain thematic roles (e.g. indirect objects are usually animate (Fillmore, 1968)). Results from previous studies of English dative shift verbs have shown that subjects prefer inanimate direct objects to be followed by animate indirect objects when both are full lexical NPs (e.g. 'I gave the book to Sally' vs. 'I gave Sally the book') (e.g. Osgood & Zehler, 1981). In English, the latter order is typically used when the indirect object is a pronoun (e.g. 'I gave her the book'), and young learners are sensitive to the discourse conditions of these alternative surface syntactic frames (*cf.* Waryas & Stremel, 1974). Similar sensitivities to surface grammatical structure are found in other linguistic domains, where the relative frequency of linguistic phenomena such as passives (Demuth, 1989) and even coda consonants (Roark & Demuth, 2000) is shown to influence the timing of acquisition, even when the 'parameter' to be set (i.e. codas consonants are permitted) is overtly observable. These findings point to the possibility that language learners may be statistical learners to a much greater extent than initially thought. This may help explain why children's grammars show evidence of rule-learning or parameter setting, but also take some time to attain adult levels of performance.

In sum, the findings reported here suggest that lexical construction effects of the sort envisioned by Tomasello (1992) may coexist with the early stages

of rule-based learning (*cf.* Bowerman, 1990), even when the semantics of verbs plays no role. These results argue strongly for the need to examine the relative contributions of both rule-based learning AND lexical construction effects, both in learning the argument structure of verbs and in other linguistic domains. Only by considering both together can we begin to formulate a more coherent theory of how language is acquired.

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APPENDIX

STIMULI

Animate Benefactive condition

1. Ba robela moruti thupa	'They're breaking the stick for the priest'
*Ba robela thupa moruti	
2. Re tsella motho lebese	'We're pouring the milk for the person'
*Re tsella lebese motho	
3. Re bapalla mokhotsi bolo	'We're playing ball for our friend'
*Re bapalla bolo mokhotsi	
4. Ke ngolla mosali lengolo	'I'm writing a letter for the woman'
*Ke ngolla lengolo mosali	
5. Ba kwahella ntate nama	'They're covering the meat for our father'
*Ba kwahella nama ntate	

Animate Theme condition

1. Ke shapela bana ditlhapa	'I'm lashing the children because of
*Ke shapela ditlhapa bana	the insults'
2. Ba otlela Mosa papadi	'They're hitting Mosa because of
*Ba otlela papadi Mosa	the games'
3. Re ratela banana botle	'We like the girls because of their beauty'
*Re ratela botle banana	
4. Ba tsabela Neo bohale	'They fear Neo because of her temper'
*Ba tsabela bohale Neo	
5. Ke bitsetsa rangwane dijo	'I'm calling my uncle because of the food'
*Ke bitsetsa dijo rangwane	

Semantic Benefactive condition

1. Re hlakolela motoho pitsa	'We're wiping out the pot for
Re hlakolela pitsa motoho	the porridge'
2. Ke khella sekolo metsi	'I'm drawing water for the school'
Ke khella metsi sekolo	
3. Ba phehela mokete dikuku	'They're cooking the cakes for the feast'
Ba phehela dikuku mokete	
4. Re rokela lechato baki	'We're sewing a jacket for the wedding'
Re rokela baki lechato	
5. Ba rekela jase konopo	'They're buying a button for the coat'
Ba rekela konopo jase	

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