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Elements of Space Grammar in Leggbó*

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This paper aims to give a description of the basic elements of the grammar of space in a hitherto virtually undescribed language, the Upper Cross language Leggbó of the Niger-Congo phylum. The areas under investigation are deictics, topological relations, caused positions, and motion verbs. In addition to making use of conventional elicitation methods, we also employed tools for the exploration of spatial language developed at the Max Planck Institute for Psycholinguistics, Nijmegen; tools which are much more systematic than anything previously available to individual researchers and fieldworkers. The results show a strong tendency for Leggbó to express topological relations in terms of the activities which bring about the topological relations, rather than in terms of the static relationship between the figure and the ground involved. Consequently, prepositions and locative nouns play only a minor role. There is no particular word for the concept ‘under,’ which is mostly expressed as ‘inside.’ Complex motion events are expressed through serial verb constructions. With respect to Tálmey’s typology of motion verbs, one can observe a slight preference for the expression of manner over path.

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Keywords: grammar of space, deictics, topological relations, caused positions, motion verbs
1. Goals of this paper\(^1\)

The primary goal of this paper is to provide a preliminary description of the grammar of space of Leggbó, an Upper Cross language of the Benue-Congo branch of the Niger-Congo language phylum. The area of the expression of spatial relationships is of particular interest for the semantic description of languages because of its basicness for language and cognition. The description is part of a larger project of the description of this hitherto virtually undescribed language. It is in large parts based on the cognitive framework for the study of grammar of space developed at the Max Planck Institute for Psycholinguistics, Nijmegen (henceforth abbreviated as MPIN).\(^2\) The Language and Cognition group at this institute has developed on a grand scale tools for the cross-linguistic analysis of space and cognition which are much more systematic than, and go far beyond, the possibilities previously available to individual researchers.

In addition to the purely descriptive side, we will try to reach some generalizations with respect to the language of space in Leggbó, and point out those aspects which seem to be of particular typological relevance.

2. Contents

The following two sections will provide brief information on Leggbó, the language under investigation and the methods of description, in particular the framework of research developed at Nijmegen. Section 5 gives a brief overview over spatial deixtics. Section 6 will discuss the basic grammatical means employed for the expression of static spatial scenes. Section 7 provides additional data for the study of topological relations in Leggbó, based on the MPIN questionnaire. Section 8 will do the same for caused positions, hence dealing with the interface between the conceptualization of dynamic and static spatial scenes. The last two sections will introduce the expression of dynamic scenes, namely motion verbs, and transitive verbs of moving objects.

3. The language under investigation

As mentioned above, Leggbó is an Upper Cross language of the Benue-Congo branch of the Niger-Congo language phylum. It is spoken by about 60,000 people in ABI and Yakurr Local Government Areas of Cross River State of Nigeria (Southeastern Nigeria).\(^3\) Upper Cross languages are, in general, not satisfactorily documented. Pre-

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1) We wish to express our deep-felt gratitude to Larry Hyman (University of California Berkeley) who has initiated and organized the project of the description of Leggbó, and has provided us with invaluable information and support. Magnus Wilson (Central University of Nationalities, Peking,) kindly took care of the English proof reading. We appreciate the valuable comments that we received from two anonymous reviews for JAAS.

2) The MPIN, and Eric Pederson, University of Oregon, have generously supplied field manuals.
liminary grammatical descriptions exist for Lokaa of the Loko subbranch\(^3\) and Mbembe of the Mbembe-Leggbô subbranch.\(^5\) Leggbô is a tone language, with three level tones, high, mid, and low. They are rendered here as is common with accents, e.g. /ó/ (high), /ö/ (mid), and /ô/ (low), respectively. Basic word order is SVO, SOV occurring mainly in negation. Subjects are obligatorily marked as prefixes on the verb.

4. Methodology and conventions

The data presented here were elicited with two types of methods. About half of the data were obtained by conventional elicitation, by finding the expression for sentences given in English or situations described in English. This applies for the data in sections 6, 9 (except 9.1.), and 10. These data also contain incidental evidence, such as data from elicitation on different topics or, more rarely, from stories. The other data, namely those from sections 5, 7, 8, and 9.1 were obtained by employing various picture book and video questionnaires developed at MPI. The questionnaires developed at MPI are the output of the “Spatial Language and Cognition” project running at the institute since 1992. This project has been extremely successful resulting in numerous qualitatively outstanding publications.\(^6\) With a large number of scientists participating in the same project, the language of space has been explored in unprecedented systematicity and depth, driven by the motivation to go beyond surface phenomena and link the results to broader issues in areas such as language acquisition\(^7\) and linguistic relativity.\(^8\)

For the purposes of the present research, the scenes were either re-enacted in real space and with real objects, or shown as pictures. These picture books and videos are not reproduced in the present article.\(^9\) For one thing, this would be quite impossible within the limited space available. For another thing, this is not really necessary, because the decisive characteristics of the scenes can be described sufficiently verbally. The source of the Leggbô data is Dr. Imelda Udoh of the University of Uyo, Nigeria. We decided to indicate ungrammaticality by “??” instead of “*”, because Dr. Udoh found it often hard to exclude the possibility that an “ungrammatical” expression would be acceptable under very specific pragmatic circumstances.

5. Locative Deictics

We start here with a very basic area in the language of space, the deictics. We cannot

\(^3\) Udoh 2000. The data concerning the location of Leggbô provided in the Ethnologue (Grimes 2000) are outdated.
\(^4\) Iwara 1982.
\(^5\) Barnwell 1969.
\(^6\) e.g. Pederson et al. 1998, Levinson 2003, Levinson et al. 2003.
\(^7\) e.g. Bowerman 1996.
\(^8\) e.g. Levinson 1996a.
\(^9\) They are available on the following URL: http://www.mpi.nl/world/data/fieldmanuals/STIMKITS/
do full justice here to the whole deictic system of Leggbó, which would at least require a lengthy paper of its own. We will limit ourselves here to dealing with the most basic core spatial deictic notions, which are captured in the following MPIN questionnaire.

5.1 The questionnaire

The questionnaire used is a 1999 revised and improved version of a 25 picture-scene questionnaire designed by David Wilkins. It aims to systematically vary spatial situations along three parameters which its creator has identified as being most fundamental in the conceptualization of spatial deixis. These three parameters are (1) speaker-anchoredness vs. addressee-anchoredness vs. speaker&addressee-anchoredness vs. other-anchoredness; (2) distinctions in distance from speaker; and (3) distinctions of visibility vs. non-visibility. Other factors that might influence the choice of encoding, such as physical contact between the speaker and the object, attention of the speaker, and gesturing, are marginally included in the instructions, or can be added by the investigator.

5.2 The data

The data obtained through the use of the questionnaire are listed below. The verbal description of the scene is the description provided by Wilkins. In elicitation, the scenes were re-enacted with actual objects in actual space. It turned out that all scenes could be covered by just two deictic terms, namely amma and åmme. We thus divide the scenes according whether amma or åmme are used for them, and within that grouping list them according to the sequence in the questionnaire. The numbers in brackets refer to the number in the questionnaire. They are given in square brackets to distinguish them from the numbers of examples in our paper which are given in round brackets. In the data, speaker is abbreviated as “spkr”, addressee as “addr”.

amma is used when the speaker refers to:
- her/his own body part [1]
- a movable object in contact with her/his body [3]
- an object close to her-/himself and visually not easily accessible to the addr [6]
- an object close to her-/himself and visually easily accessible to the addr [7]
- an object that is in equal, short distance from both spkr and addr, between them [8]
- an object that is in equal but long distance from both spkr and addr, between them [17]
- an object outside the door in equal, short distance from both spkr and addr [20]
- an object outside the house, closer to spkr than to addr, who is outside the house [22]

åmme is used when the speaker refers to:
- addr’s body part [2]

- a movable object in contact with addr's body, pointing at it [4]
- a movable object in contact with addr's body, not pointing at it [5]
- an object in front of addr and visible to the spkr [9]
- an object close to the addr and visually not easily accessible to him-/herself [10]
- an object behind her-/himself, and visually easily accessible to addr, but not spkr [11]
- an object that is in equal, mid-distance in front of spkr and addr [12]
- an object that is far from both spkr and addr, with a third person, but clearly visible [13]
- an object that is far from both spkr and addr, between spkr and addr on one side, and a third person on the other side [14]
- an object that is far from both spkr and addr, with a third person, and not visible [15]
- an object that is far from spkr with the addr, but clearly visible [16]
- an object that is far from spkr with the addr, and not visible [18]
- an object that is inside a house, distant from addr who is also inside the house, but close to the spkr who is looking at it through a window [19]
- an object outside the door, in mid-distance from spkr and addr but closer to spkr [21]
- an object visible up in the hills, several kilometers away [24]
- an object up in the hills, invisible, several kilometers away [25]

5.3 Some generalizations and conclusions

amma is used for speaker's body parts, objects attached to speaker's body, and objects that belong to a common space between speaker and addressee. ámmme, in contrast, looks like the unmarked term, as it can be used for all other scenes. It denotes things belonging to the addressee physically or in terms of space, and things that belong neither to the speaker's nor the addressee's space, including things far away. Thus, with respect to the three basic parameters named above, the Leggbo deictics amma and ámmme are first and foremost speaker-vs. addressee-anchored. Secondarily, distance plays a role, since amma is used with objects within an equal, but short distance to speaker and addressee while ámmme is used when the distance to addressee and speaker becomes longer. Visibility is not an obvious factor.

On the other hand, the designation by amma vs. ámmme may change if the speaker directly touches an object when pointing at it. The objects in scenes [2], [4], [5] for which otherwise ámmme is used are referred to as amma if the speaker touches them. In contrast, mere pointing doesn't seem to make a difference, except for scene [19]. Here, pointing (putting her/his hand through the window) would give the speaker a physical presence in the space of the object that (s)he otherwise doesn't have. Another factor that the questionnaire draws attention to, namely whether there is a difference when the addressee is supposed to know an object and/or is supposed to be aware of its presence,
does not seem to be relevant in the choice of the deictic marker.

6. Basic grammatical means for the expression of topological relations

Unlike most of the data in the later sections, the data presented here have been collected through conventional elicitations. Although there is no contradiction with the data obtained through the visual tasks of the MPIN questionnaires, it is interesting to see that some expressions that are less salient in the conventionally elicited data became more salient in the picture book tasks, which are probably closer to actual language use. We will refer to this point again in sub-section 5.3.

6.1 Basic locative construction

In the MPIN framework it is assumed that languages have a default kind of construction for the expression of spatial relations, a construction that is used in unmarked cases and more frequently than others. It is the construction used in answers to "where..."-type questions. In Leggbó, the following construction can be identified as the basic locative construction (BLC):

\[ V \text{ PREP (LOCN) N} \]

V stands for verb. In fact, there is a specific verb which is fairly neutral with respect to specific spatial configurations, and this is the locational verb \( k\text{kù} \) "be, stay". PREP stands for one of the two general locational prepositions \( if\text{ke} \) or \( it \), which are explained below in a little more detail (6.2). The optional locative noun (LOCN) specifies a frame of reference or a topological relationship, and N the point of reference for the spatial relationship. The nouns also are described in their own subsection below (6.3). We will not go into much detail there, however, because in section 7 numerous examples of their use will be provided. Finally, subsection 6.4 provides a list of verbs other than \( k\text{kù} \) that feature prominently in spatial scenes.

6.2 Locative prepositions

Leggbó only has four prepositions, two of which have a spatial function. \( if\text{ke} \) is the most natural choice for the locative preposition slot in the BLC, but it can be replaced by \( it \), or the combination of \( if\text{ke} \) \( it \) in correlation with any locative nouns. Thus,

1) \[ \text{ynwene šे e-kkù ifke ëce ekkpokolò} \]
\[ \text{book DEF 8SG-be LOC top.of table} \]

"The book is on the table"

is equivalent to:

2) \[ \text{ynwene še-kkù it ëce ekkpokolò} , \]

12) The following abbreviations are used in the glosses: LOC, locative; DEF, definite article; 1,2,3, first, second, third person; SG, singular; PL, plural; DIM, diminuitive; PRG, progressive; IMP, imperative; GER, gerund. # indicates the end of an utterance.
where ḥk is replaced by ii, or:

(3)  ḳwẹ́ ṣọ  e-kkii ḥk ii ĝezo ekkpokoło#

where both prepositions occur together. Very general and easily inferable locations, like ‘at’, ‘in’, or ‘on’, do not need to be further specified by a locative noun. Thus, the following sentences without locative noun are also acceptable as the expression of the same meaning as the sentences above:

(4)  ḳwẹ́ ṣọ  e-kki ḥk ii ekkpokoło#
(5)  ḳwẹ́ ṣọ  e-kkii ḥk ekkpokoło#
(6)  ḳwẹ́ ṣọ  e-kkii ii ekkpokoło#

Furthermore, ii can fuse with the initial vowel of the following noun, as in the following example:

(7)  ḳwẹ́ ṣọ  e-kkii ekkpokoło#

 ḳkoko is the result of a fusion of ii with ekkpokoło.

A noun alone without any prepositional marking, on the other hand, is not acceptable in the case of static relationships:

(8)  ??ḳwẹ́ ṣọ  e-kkii ekkpokoło#

In anticipation of the later sections dealing with dynamic scenes, we shortly refer here to the use of prepositions in dynamic scenes as well. Basically, the same combination of preposition(s) and locative nouns that is used to encode static spatial relations, is also used to encode dynamic situations. Consider the following example:

(9)  wọhẹ́ ṣọ  e-ṣẹ́jì ḥk ìzàm ìtìì së#

child DEF 3SG-go LOC back.of house DEF

‘The woman went behind the house’

If the goal of motion does not need any further topological specification (general ‘to’), the preposition can be omitted without any change of meaning. The sentence

(10)  e-ṣẹ́jì ṣẹṣẹ

3SG-go market

‘(S)he went to the market’

is equivalent to:

(11)  e-ṣẹ́jì ḥk ṣẹṣẹ

Regardless of the stativity/dynamicity of the scene, ḥk can be abbreviated to ks:

(12)  ḳwẹ́ ṣe-e-kkii ks ekkpokoło#
(13)  e-ṣẹ́jì ks ṣẹṣẹ

As the second example demonstrates, where the regular form of the verb is ụsẹ́jì, the high tone of the deleted segment /j/ is “inherited” by the preceding syllable.
The exact conditions under which the initial /ŋ/ of ŋbe can be omitted have not been established. It seems clear, however, that these are pragmatic-prosodic in nature, rather than being predictable from specific grammatical, lexical, semantic, or phonotactic features.

There is just one position where /ŋ/ cannot be elided, namely sentence-initially:

(14) wàhê sé e-kkù dañ# - ŋbe/*ke èteñ#
    child DEF 3SG-be where LOC house
    ‘Where is the child?’ - ‘In the house’

The fact that Leggbó has two general locative prepositions (and there are no others) that not only vie for the same slot but can also co-occur, is remarkable. It seems likely that ŋi is the older one and is in the process of being reinforced and eventually replaced by ŋbe as a locative preposition. ŋi is more “inside” the noun phrase than ŋbe (cf. ŋbe * ño vs. ??il ŋbe ño), and it is far less common. Furthermore, it is being attenuated by fusion with the initial syllable of the following noun, and as such in the “danger” of getting reduced to zero.

While ŋbe is undoubtedly of deictic origin, it seems reasonable to assume that ŋi originally expressed a topological relationship, namely containment. Although it can replace or co-occur with ŋbe in almost any position, those cases where it occurs naturally are rather limited, and mostly refer to some kind of containment or enclosure:

(15) kâm-ŋe kùkù ñe ño èteñ#
    carry.IMP 3SG enter LOC LOC house
    ‘Carry it into the house!’

(16) mèmèm ño ñi ñëññ#
    remove.IMP LOC LOC room
    ‘Remove it from the room!’

6.3. Locative nouns

The following represents a list of nouns that function in the basic locative construction to specify the spatial relation between a figure and a ground that have been identified in Leggbó. Their meaning as a noun is given, and then their equivalent(s) in English prepositions and other spatial expressions:

- ñò ‘top of’
- ñòwà ‘side’
- ñèm ‘back’
- esowìm ‘forehead’, ‘front’
- etekpàn ‘outside’
- ñóto ‘inside’
- ñil ‘left’
- (g)ëdybò ‘right’

⇒ ‘on’, ‘above’, ‘over’
⇒ ‘besides’, ‘along’
⇒ ‘behind’
⇒ ‘in front of’
⇒ ‘outside of’
⇒ ‘inside of’
⇒ ‘to the left of’
⇒ ‘to the right of’
avvém ‘center’ \(\Rightarrow\) ‘in the middle of’, ‘between’

As can be seen, the number of locative nouns is rather limited (9), and each of them covers a large area. For instance īzō ‘top of’ is both appropriate if the figure (object) is in physical contact with the ground, like a book on the table, or not, like a bird flying over the house. There is no single expression corresponding to ‘under’ in English; lītīl is used when the ground can be conceptualized to enclose the object. This can be observed from the examples of concrete spatial scenes provided in the next section.

Below two examples are given with the basic locative construction and different locative nouns:

(17) waḩē sē e-ḵkū ĭkses ēbba etto set#
child DEF 3SG-be LOC side.of house DEF
‘The child is (stands) besides the house’

(18) waḩē sē e-kkāl ĭkses Ṿ̃zām etto set#
child DEF 3SG-be LOC behind house DEF
‘The child is (stands) behind the house’

The position of LOCN and N can be reversed without obvious difference in meaning:

(19) waḩē sē e-ḵkū ĭkses ētto Ṿ̃zām set#
child DEF 3SG-be LOC house behind DEF
‘The child is (stands) behind the house’

However, while the noun following the locative noun undergoes tone sandhi, the locative noun following the noun doesn’t.

6.4. Verbs of position and body posture

Besides the very general kēk ‘be, stay’, the following verbs in Leggbó denote either a static position, or both a static position and an action that leads to that position:

be ‘stand’ for humans; objects when emphasizing vertical position, also the sun; cf. ve’nne ‘stand up’

mina ‘lay’, ‘lie’, ‘lie down’ (tr./itr.) - for humans, and objects when emphasizing horizontal position

tōgbō ‘sit’, ‘sit down’

zēnne ‘hang (on to)’ (tr./itr.)

pēghe ‘lean against’ (tr./itr.)

The following sentence exemplifies the use of one of these verbs, be ‘stand’:
(20) ënɔ sé e-be ŋke ɡève ëbbat
house DEF 3SG-stand LOC lake side
'The house stands at the lakeside'

7. Use of the expressions for topological relations

7.1. Questionnaire on topological relations

This section demonstrates how the grammatical means of expression sketched above, in combination with other means not mentioned yet, feature in the conceptualization of spatial relations in Leggbó. We do so by presenting the results of the questionnaire for static topological relations developed at the MPIN by Pederson, Wilkins and Bowerman in 1998.

According to its three creators, the questionnaire is "intended for an open-ended exploration of how different languages use their linguistic resources to 'carve up' the domain of topological spatial relations." It is seen as a step towards "(i) identifying a language's total resources for encoding static topological relations [...] (ii) delimiting the pragmatics of such resources; and (iii) discovering the semantics of spatial terms". 13) The picture series focuses on figure-ground relations like contact, support, adjacency, inclusion and attachment. It does not claim to be exhaustive, however, and the authors admit the existence of some blind spots (underrepresentation or non-representation of certain relations). For instance, there is a certain bias towards what we might call 'on' - scenes, with a single figure being supported by or attached to a single ground.

The structure of the data given below is as follows. On the left side, a phrase in English describes the focus of the scene, which in the questionnaire is presented as a drawing. The number in brackets refer to the number of the drawing in the questionnaire. Often one picture is used to illustrate different spatial relationships, changing the viewpoint. Therefore the same scene may appear more than once in the data, since the results are organized semantically. The 24 headings ("figure supported by (more or less) horizontal surface" etc.) render what Bowerman and Pederson call "situational classes," groupings to whose members most languages give a uniform grammatical treatment in their experience. 14)

The sentences on the right describe the scene in Leggbó. When more than one expression for the same scene is possible, all expressions are provided. So are other related expressions that seemed relevant. Particularly, many scenes can be expressed both as a transitive action and an intransitive event. When a word or concept was not available in Leggbó, it was replaced by a similar concept. Frequently, the most natural way to express static scenes in Leggbó is as a relative clause, resulting in different tones, but the renditions below with a few exceptions have been unified to main clause phonology.

---

13) Pederson, Wilkins and Bowerman 1993: 1.
7.2. The data

7.2.1. Figure supported by (more or less) horizontal surface

pencil on desk [59]

\textit{ètti sé e-kkú ke ekkpokolo sè#}

stick DEF 3SG-be LOC table DEF

'The stick is on the table'

cup on table [1]

\textit{àmòò e-kkú ke ekkpokolo#}

cup 3SG-be LOC table

'A cup is on a table'

book on shelf [8]

\textit{ywènè e-nyiná ke ekkpokolo#}

textbook 3SG-place on LOC table

'A book is placed on a table'

tablecloth on table [29]

\textit{sèggè e-bèmmí ke ekkpokolo#}

cloth 3SG-cover LOC table

'A cloth covers a(on a)table'

man on roof [34]

\textit{ènnè e-bé ke ètti èzù#}

person 3SG-stand LOC house top

'A person stands on the top of a house'

cat on mat [40]

\textit{àmwayè e-tdghè ke likol#}

\textit{cat 3SG-sit LOC mat}

'A cat sits on a mat'

hose on tree stump, coiled [23]

\textit{àkpo e-dani ke ètti dò#}

hose 3SG-spin.around LOC tree stump

'A hose spins around a tree stump'

cf. \textit{wadum sé e-dani àkpo ke}

\textit{man DEF 3SG-spin.around hose LOC ètti dò#}

\textit{tree stump}

'The man spins a gum hose around the tree stump'

hose on tree stump, draped [43]

\textit{àkpo e-zènè ke ètti dò#}

hose 3SG-hang LOC tree stump

'A hose hangs on a tree stump'
cf. only with animates:

\[ e\-\text{yō}
\eta\zeta \; k\; et\; d\#
\]

snake 3SG-pass LOC tree stump
‘A snake passes on a tree stump’

tree on top of mountain [65]

\[ \text{ētti} \; e\-\text{bē} \; k\; e\text{kkpōn} \; ē\zeta\#
\]

tree 3SG-stand LOC mountain top
‘A tree stands on a mountain top’

tree on side of mountain [17]

\[ \text{ētti} \; e\-\text{mēnt} \; k\; e\text{kkpōn} \; e\text{bbā}\#
\]

tree 3SG-grow LOC mountain side
‘A tree grows on a mountain’s side’

hat on head [5]

\[ e\-\text{ŋwā} \; e\; lētōl\#
\]

3SG-wear bag head
‘X wears a hat (bag of head)’

cf. ??e\; lētōl \; e\-\text{ŋwā} \; k\; lētōl\#

bag head 3SG-wear LOC head
‘A hat is worn on the head’

boat on/in water [11]

\[ k\text{wāl} \; i\text{fke} \; lē\text{sanālt}\#
\]

boat LOC river
‘A boat on a river’

7.2.2. Figure supported by hanging

clothes on line [37]

\[ \text{āwilli}, \; k\text{kākki}, \; i\text{bosōm} \; b\-\text{yāant}
\]

woman’s gown trousers shirt 3PL-dry

\[ i\text{fke} \; gē\zeta\#
\]

LOC rope
‘A female gown, trousers, and a shirt dry on the rope’

less naturally:

\[ \text{āwilli}, \; k\text{kākki}, \; i\text{bosōm} \; b\-\text{zēene}
\]

woman’s gown trousers shirt 3PL-hang

\[ i\text{fke} \; gē\zeta\#
\]

LOC rope
‘A female gown, trousers, and a shirt hang on a rope’
<table>
<thead>
<tr>
<th>English</th>
<th>Yoruba</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>flag on mast [56]</td>
<td>eegò ẹ-zẹnẹ ke étti#</td>
<td>cloth 3SG-hang LOC pole</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'A cloth hangs on a pole'</td>
</tr>
<tr>
<td>pendant on chain [57]</td>
<td>ẹdaa ẹ-zẹnẹ ke ezi#</td>
<td>bead 3SG-hang LOC thread</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'A bead hangs on a thread'</td>
</tr>
<tr>
<td>coat on hook [9]</td>
<td>ọkon ẹ-wai ijke ẹppi#</td>
<td>coat 3SG-hang LOC wall</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'A coat hangs on the wall'</td>
</tr>
<tr>
<td>earring in ear [69]</td>
<td>ẹdaa ẹtọl ẹ-zẹnẹ ijke ẹtọl kolo#</td>
<td>bead ear 3SG-hang LOC ear hole</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'A bead of ear hangs in the ear hole'</td>
</tr>
<tr>
<td>or: ẹdaa ẹtọl ẹ-yni ẹkẹ ẹtọl#</td>
<td>bead ear 3SG-wear LOC ear</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>'A bead of ear is worn on ear'</td>
</tr>
<tr>
<td>apples on tree [15]</td>
<td>nttiwmọ ẹkọ ẹtti#</td>
<td>fruit LOC tree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'Fruits on a tree'</td>
</tr>
<tr>
<td></td>
<td>nttiwmọ ba-wọmọ wọmọ #</td>
<td>fruit 3PL-fruit fruit&gt;GER.PLU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'Fruits fruit fruiting' [15]</td>
</tr>
<tr>
<td>leaves on twig (hanging down) [41]</td>
<td>ligwàal ẹ-ggama ke étti##</td>
<td>leave 3SG-hang.on LOC twig</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'Leaves hang on a twig'</td>
</tr>
<tr>
<td>apple on twig [27]</td>
<td>nttiwmọ ẹ-klaa ke étti##</td>
<td>fruit 3SG-be LOC twig</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'A fruit that is on a twig'</td>
</tr>
<tr>
<td>picture on wall [44]</td>
<td>ndisà ẹ-zẹnẹ ijke ẹppi#</td>
<td>picture 3SG-hang LOC wall</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'A picture hangs on the wall'</td>
</tr>
</tbody>
</table>

[15] The stem meaning 'fruit' is used both as a noun and a verb, and furthermore in the gerund of the verb. The same expression in English would clearly be infelicitous.
7.2.3. Adhesion

stamp on letter [3]

\[ \text{ligwàl e-ggama ijke nyénë#} \]
leaf 3SG-stick LOC book
'A leaf sticks on a book' (also used if leaf/stamp wet)
also: nyénë awôô vvôm e-bbi
book ASS thing 3SG-blacken
èbbi i-ka#
3SG-blacken.GER LOC
'A book on which it blackens black' (= 'A book on which there is something')

7.2.4. Wet or smeary substance on a surface

raindrops on window [48]

\[ \text{ástëtewa e-tôoyzí ijke lèmmál#} \]
water/rain 3SG-drip.PRG LOC window
'Water/rain is dripping on the window'
also: ètewa e-tëëi ke lèmmál#
rain 3SG-rain.PRG LOC window
'Reain is raining on a window'

butter on the knife [12]

\[ \text{izèèm e-bbi èbbi#} \]
knife 3SG-blacken blacken.GER
'A knife blackens black'
or: ånnè e-fôasòha ijke izèèm#
oil 3SG-stick.onto LOC knife
'Oil is on a knife'

7.2.5. Marks on a surface

picture on stamp [28]

\[ \text{cf. gwânc de e-kkù ke ndísa#} \]
woman DEF 3SG-be LOC picture
'The woman is on the picture'

writing on letter [3]

\[ \text{nyénë ba-nyani vvôm i-ke#} \]
book 3PL-write thing LOC
'A book on which they wrote things'

stain (/letters) on shirt [68]

\[ \text{ba-nyámi vvôm ijke ibbaòôém#} \]
3PL-write thing LOC shirt
'They wrote things on the shirt'
7.2.6. Living creature on (nonhorizontal) surface

- Snail on wall [52]
  \[ \text{ëkwò } \text{e-dàannyi } \text{ke } \text{ëppit#} \]
  \[ \text{snail 3SG-crawl LOC wall} \]
  \[ \text{‘A snail is crawling on the wall’} \]

- Spider on wall [52]
  \[ \text{ùdódoùwe } \text{si } \text{e-dàannyi } \text{ýke } \text{ëppit#} \]
  \[ \text{insect DEF 3SG-crawl LOC wall} \]
  \[ \text{‘The insect is crawling on the wall’} \]

- Spider on the ceiling [7]
  \[ \text{ùdódoùwe } \text{e-ggama } \text{ýke } \text{ittikpan#} \]
  \[ \text{insect 3SG-crawl LOC ceiling} \]
  \[ \text{‘An insect perches on the ceiling’} \]

7.2.7. Figure both tightly attached to and projecting from ground

- Lamp affixed to ceiling [63]
  \[ \text{ëtòlikan } \text{e-zènë } \text{ezènë } \text{ýke } \text{ittikpan#} \]
  \[ \text{lamp 3SG-hang hang,GER LOC ceiling} \]
  \[ \text{‘A lamp hangs on the ceiling’} \]

- Telephone on wall [25]
  \[ \text{ñkalikan } \text{e-zènë } \text{ýke } \text{ëppit#} \]
  \[ \text{bell 3SG-hang LOC wall} \]
  \[ \text{‘A bell hangs on the wall’} \]

- Shelf on wall [8]
  \[ \text{èbükpo } \text{e-zènë } \text{ýke } \text{ëppit#} \]
  \[ \text{board 3SG-hang LOC wall} \]
  \[ \text{‘A board hangs on the wall’} \]

- Handle on cupboard [61]
  \[ \text{cf. } \text{lèbul } \text{lemàt#} \]
  \[ \text{handle door} \]
  \[ \text{‘Handle of door’} \]

- Hook on wall [50]
  \[ \text{cf. } \text{vwò } \text{hànà-kaa-zènë } \text{vv.5n#} \]
  \[ \text{thing 3PL.HAB-hang thing} \]
  \[ \text{‘A thing that they usually use to hang sth on’} \]

- Leaf on twig (upright) [41]
  \[ \text{ligwàl } \text{e-ggama } \text{ke } \text{ëttit#} \]
  \[ \text{leaf 3SG-hang LOC twig} \]
  \[ \text{‘Leaves hang on a twig’} \]

- Flag on mast [56]
  \[ \text{eggò } \text{e-zènë } \text{ýke } \text{ëttit#} \]
  \[ \text{cloth 3SG-hang LOC pole} \]
  \[ \text{‘A cloth hangs on/from a pole’} \]
clothespin on line [33] aggà ñ-ggama ke gëzi# nail 3SG-stick LOC rope 'A nail sticks on the rope'

7.2.8. Tied to - relations
balloon on stick [20] ùkpo s-zëene ñke ètti# balloon 3SG-hang LOC stick 'A balloon hangs on a stick'
flag on mast [56] eggò s-zëene ñke ètti# cloth 3SG-hang LOC pole 'A cloth hangs on/from a pole'
strap on purse [66] esi ë-kaa lëbol# bag 3SG-carry.SRA handle 'A bag that carries a handle'
lëbol esi# handle bag 'A handle of a bag'

cord on telephone [25] èzi s-zëene ñke nkaliqañ# rope 3SG-hang LOC bell 'A rope hangs on the bell'
strings on mat [40] èzizibë s-zënt ñke likò# small.rope 3SG-hang.PRG LOC mat 'Strings are hanging on a mat'

7.2.9. Encirclement
bandana around head [45] eminakol ë-bayì èzi ñke leròl# girl 3SG-tie rope LOC head 'A girl has a rope tied on her head'
ribbon around candle [4] ëkkwen awò ad bà-bayì ivòm i-kò# fire ASS 3PL-tie thing LOC 'A fire on which they tied something'
ring on finger [10] ñgbanônì ë-ywà ñke inanò# ring 3SG-wear LOC finger 'A ring is worn on a finger'
also: gwa:n sê e-nywá aqbanon yêke inonô#  
woman DEF 3SG-wear ring  LOC finger  
'The woman wears the ring on her finger'  

hose around stump [55]  
zô e-dani ke ètti dà#  
hose 3SG-wrap LOC tree stump  
'A hose wraps around the tree stump'  

fence around house [15]  
ýkátti e-kko ètò#  
fence 3SG-encircle house  
'A fence encircles a house'  

7.2.10. Envelopment  
shoe on foot [21]  
e-nywá ákpaikon#  
3SG-wear shoe  
'X wears a shoe'  

7.2.11. Clothing on  
hat on head [5]  
e-nywá esi letôl#  
3SG-wear bag head  
'X wears a bag of head'  

shoe on foot [21]  
e-nywá ákpaikon#  
3SG-wear shoe  
'X wears a shoe'  

belt on [42]  
ézi e-silo/bai yêke lîwîl#  
rope 3SG-tie LOC belly  
'A rope ties on her belly'  

necklace on [51]  
eminakol e-nywá èdzê lekôdô#  
girl 3SG-wear head neck  
'A girl wears a necklace'  

ring on [10]  
aqbanon yêke inonô#  
ring 3SG-wear LOC finger  
'A ring is worn on a finger'  

earring on [69]  
èdzê litôl e-kkà ke litôl#  
bead ear 3SG-hang LOC ear  
'A bead of ear hangs in the ear'
7.2.12. Complete containment

dog in kennel [71]

"ètì̀m e-kkù ke ètì̀óc lìtol#"

dog 3SG-be LOC house inside
‘A dog is inside a house’


fish in bowl [32]

"ètì̀m e-kkù ke ètì̀óc lìtol#"

fish 3SG-be LOC pot water
‘A fish is in a water pot’


rabbit in cage [54]

"ètì̀m e-kkù ke ètì̀óc lìtol#"

cat 3SG-be LOC box
‘A cat is in a box’


apple in bowl [2]

"ètì̀m e-kkù ke ètì̀óc lìtol#"

orange 3SG-be LOC plate
‘An orange is on a plate’


owl in tree/hole [67]

"ètì̀m e-kkù ke ètì̀óc lìtol#"

bird 3SG-dwell LOC tree inside
‘A bird dwells inside a tree’


apples on/in tree [45]

"ètì̀m e-kkù ke ètì̀óc lìtol#"

fruit LOC tree
‘Fruits on a tree’

cf. also: "ètì̀m ba-wòmì wòmòkì#"

fruit 3PL-fruit fruit-GER.PLU
‘Fruits fruit fruiting’

7.2.13. Partial containment

cork in bottle [62]

"ètì̀m e-kkù ke ètì̀óc lìtol#"

cover 3SG-cover LOC bottle
‘A cover covers the bottle’


box in bag [14]

"ètì̀m e-kkù ke ètì̀óc lìtol#"

box-DIM 3SG-be LOC bag
‘A small box is in a bag’
dog in basket [46]  
švwa e-tógó ke ikatam#  
dog 3SG-sit LOC basket  
'A dog sits in a basket'

candle in holder [4]  
ěkkwen sè e-bè ke ākkpan#  
fire DEF 3SG-stand LOC plate  
'Fire stands on a plate'

cigarette in mouth [39]  
ěźozón e-ggamè’ ke emmèt#  
smoke 3SG-hang-3SG LOC mouth  
'A cigarette hangs him in the mouth'  
cf. also wàdum e-ggwav eźozón#  
man 3SG-drink smoke  
'A man drinks smoke'

7.2.14. Containment in liquid or other mass  
fish in water [32]  
ětərn e-kkú ke izh̪on asim#  
fish 3SG-be LOC pot water  
'A fish is in a water pot'

7.2.15. Containment by an encircling object  
house in fence [60]  
ětən e-kkú f̪i ke ākatti littol#  
house 3SG-be LOC fence inside  
'A house is inside a fence'  
cf. also  
ětən a’ā ākatti e-kko ēkkò#  
house ASS fence 3SG-surround surround.GER  
'A house that a fence surrounds round'

7.2.16. Skewered  
papers on spike [22]  
ŋwènè ba-tònni ke itɔyi#  
book 3PL-pierce.PRG LOC spike  
'Paper is being pierced on a spike'

apple on stick [70]  
isokòlo e-tònни ke itɔyi#  
orange 3SG-pierce LOC spike  
'An orange is being pierced on a spike'
7.2.17. Skewering

spike in/through papers [22]

\[ i\,t\,a\,x\,i\, y \, e\, -\, t\, o\, n\, n\, i \, y \, e\, w\, e\, n\, e \# \]
spike 3SG-pierce.PRG book
'A spike is piercing paper'
cf. also:
\[ i\,t\,a\,x\,i\, y \, e\, -\, k\,u\,n\,a\,x\, i \, y \, e\, w\, e\, n\, e \# \]
spike 3SG-pierce.PRG book
'A spike is piercing paper'

arrow in/through apple [30]

\[ i\,t\,a\,x\,i\, y \, e\, -\, t\, o\, n\, n\, i \, i\, s\, o\, k\,o\,l\,o \# \]
spike 3SG-pierce.PRG orange
'A spike is piercing the orange'
cf. also:
\[ m\,k\,p\,a \, e\, -\, k\,u\,n\,i \, k\,e \, n\,t\,i\,w\,o\,m\,a \# \]
arow 3SG-pierce LOC fruit
'An arrow pierces through the fruit'

7.2.18. Odd containers

hole in towel [18]

\[ i\,k\,p\,o \, e\,-\,y\,a\,\,a \, b\,y\,a\,\,a \# \]
towel 3SG-tear tcari.GER
'A towel tears tearing'

crack in cup [26]

\[ i\,m\,m\,o \, e\,-\,p\,a\,\,n\,a \, b\,p\,a\,\,n\,a \# \]
cup 3SG-break break.GER
'A cup breaks breaking'

7.2.19. Above

cloud over mountain [36]

\[ e\,d\,z\,i \, e\,-\,b\,e \, k\,e \, e\,k\,k\,p\,o\,n \, \varepsilon\,z\,\,\,o \# \]
sun 3SG-stand LOC mountain top
'The sun stands over the mountain'

lamp over table [13]

\[ e\,t\,o\,l\,i\,k\,a\,\,j \, e\,-\,z\,i\,z\,e\,n\,e \, i\,k\,e \, \varepsilon\,z\,\,\,o \, e\,k\,k\,p\,o\,k\,o\,l\,o \# \]
lamp 3SG-hang LOC top table
'A lamp hangs over the table'

7.2.20. Behind

boy behind chair [64]

\[ m\,k\,p\,a\,l\,a\,w\,a \, e\,-\,b\,b\,a\,k\,k\,i \, k\,e \, e\,k\,p\,t\,a\,n \, \varepsilon\,z\,\,\,a\,m\,i \# \]
boy 3SG-hide.PRG LOC chair back
'A boy hides at the back of a chair'
7.2.21. In front of
tree in front of church [49]
\[ \text{ëtti e-be yke esovem ikobasi} \]
tree 3SG-stand LOC front church
' A tree stands in front of a church'
cf. also: \[ \text{ëtti e-be kw ikobasi ebb\'a} \]
tree 3SG-stand LOC church side
' A tree stands on the side of a church'

7.2.22. Under
ball under chair [16]
\[ \text{isokolo e-kku kw ekpian liz\'et} \]
orange 3SG-be LOC chair ground
'An orange is on the chair's ground'

cat under table [31]
\[ \text{anwany e-kku kw ekpokolo littol} \]
cat 3SG-be LOC table inside
'A cat is inside a table'

chewing gum under table [58]
\[ \text{wam e-gg\'ama kw ekpokolo littol} \]
thing 3SG-hang LOC table inside
'A thing hangs inside the table'

spoon under cloth [24]
\[ \text{ek\'ligban \text{egg\'a e-b\'emmi}} \]
spoon cloth 3SG-cover.ORA
'A spoon that a cloth covers'
cf. also: \[ \text{egg\'a e-b\'emmi ek\'ligban} \]
cloth 3SG-cover spoon
' A cloth covers a spoon'
cf. also: \[ \text{egg\'a e-r\'in\'a kw ek\'ligban} \]
cloth 3SG-be.placed LOC spoon
' A cloth is placed on a spoon'

7.2.23. Next to
boy next to fire [98]
\[ \text{w\'ah\'e e-t\'gh\'a e-kpa\'e-f\'olo \text{ekkwen}} \]
child 3SG-sit 3SG-be.close fire
'A child sits and is close to a fire'
also: \[ \text{w\'ah\'e e-wabazi \text{ekkwen}} \]
child 3SG-warm.PRG fire
' A child is warming at the fire'
also: \[ \text{w\'ah\'e e-t\'gh\'a\'t\'b\'bi \text{ekkwen ebb\'a}} \]
child 3SG-sit/sit.PRG fire side
' A child sits/is sitting at the side of a fire'
dog next to kennel [6]  ḍwa  e-kkù  ke  ėtto  əbbà́
    dog 3SG-be  LOC  house  side
    'A dog is at the side of a house'

7.2.24. Miscellaneous
hose draped over stump [43]  ãkpò  e-zènè  ke  ětii  dò̀̀
    hose  3SG-hang  LOC  tree  stump
    'A hose hangs on a tree stump'

ladder against the wall [58]  ërvenne  e-pègghé  ke  eppà̀
    ladder  3SG-lean  LOC  wall
    'A ladder leans against the wall'

7.3. Some generalizations and conclusions

In the following paragraphs, based on the data of the preceding sections some
generalizations about the expression of topological relations in Leggbó are presented:

The "situational classes" identified by the authors of the picture book questionnaire
rarely have a uniform expression in Leggbó. In fact there is not a single class consisting
of more than one scene which has a uniform expression. Still, at least a few tendencies
conforming to the proposed groupings can be identified:
⇒ support by hanging is often expressed by the verb zènè ‘hang’ (groups 2, 7, 8)
⇒ skewering is expressed by the verbs tonnì and, alternatively, kùmi (groups
    16, 17)
⇒ different types of wearing (clothes) etc. are generally expressed by the verb
    ñwà (groups 10, 11)

Other than that we find more differentiation within the groupings and overlap be-
tween the groupings. The verbs that were most frequently used are kkù ‘be’, 14 scenes,
zènè ‘hang’, 13 scenes, ñwà ‘wear’ and ggama ‘stick to’, 6 scenes each, be ‘stand’ with
5 scenes, and ṭàghò ‘sit’, bèmmì ‘cover’, and tonnì ‘pierce’ with 3 scenes each. All other
verbs were used only once or twice.

In general, the verb carries the main load in expressing the spatial relationship. No
relevant variation at all could be found in the preposition, and the locative nouns identi-
fied in translational elicitation were used rather infrequently, namely in only 12 scenes.
They are used only if there is a particular necessity to elaborate on the position of the
figure against the ground. This does not entail that the BLC (see 5.1. above) identified
in translational elicitation is mistaken. In fact, kkù is confirmed as the verb for the most
general and unmarked situations in the picture elicitation as well. However, there is a
noticeable shift to expressions with verbs when the more "natural" picture scenes are
employed. Perhaps, in conventional elicitation the English constructions with preposi-
tion and noun tend to trigger a construction with preposition and locative noun in the
The conceptualization expressed through verbs shows particular sensitivity to the following features: (1) position of the figure; e.g. be 'stand', tòghò 'sit' vs. kòhù 'be'; (2) type of contact between figure and ground; e.g. ə̀̀ëne 'hang', ggama 'stick to', ə̀wà 'wear', ògài 'be tied to'; (3) contact vs. support (verbs named in (2) vs. those named in (1)). In contrast, the notion of inclusion is obviously paid less attention to. This would in fact correspond to the lack of differentiation in lexical concepts in this field: The notions of 'inside' and 'under' are conflated in lìtòl 'inside'. Also, the concept of animacy plays only a very small role. Most verbs, including be 'stand' and ggama 'stick, hang, perch' can be used with both animate and inanimate referents with the exception of tòghò 'sit'. Although certain attention is paid to the position of the figure, apparently more than in English, there is no parallel to languages like Tzeltal\(^{16}\) that are almost excessive in differentiating the shape of the figure in spatial relationships.

One point about the verb-centered expression of spatial relationships in Leggbó seems particular remarkable: Leggbó clearly prefers to describe a static situation by an activity conceptualized in that situation, rather than by expressing the spatial relationship of figure and ground directly. Thus we have at least 13 scenes which are expressed by a non-locative activity verb followed by a NP introduced by ʃke, and 8 scenes which depict activity only, without reference to a location.

Trying to express these scenes employing expressions of spatial relationships would produce unacceptable sentences. E.g.

\[(21)\] n̄t̄wòmà ba-wòmì w̄m̄m̄x̄ìt#
fruit 3PL-fruit fruiting

'The fruit fruiting'

but:
?? n̄t̄wòmà ba-ə̀̀ënè ʃke d̄ət̄tì#
fruit 3PL-hang LOC tree

'The fruit hang on/from the tree'

\[(22)\] gèvà ə-sì-e ke gèvè#
wound 3SG-do-3SG LOC knee

'The wound does it on the knee'

but:
?? e-mènì gèvà ke gèvè#
3SG-have wound LOC knee

'(S)he has a wound on his/her knee'

More generally, we may tentatively conclude that Leggbó is a language with a propensity to conceptualize situations with focus on the activity or event taking place in contrast to a possible focus on entities.

A topic that hasn’t been touched upon yet is the question of the frame of reference. In Leggbó primarily uses a relative frame of reference, that is, one where “[N]obalisation in space are derived from, and described on the basis of, the position and orientation of the speaker.” In this questionnaire the question of relative vs. absolute spatial orientation is touched only marginally, namely in examples like [38], [49], and [64]. Here, particularly languages with an absolute frame of reference would likely have different expressions. Besides this rather marginal evidence, we wish to mention that we also conducted experiments that are specifically designed to detect the frame of reference, and they led to the same conclusion, namely that Leggbó’s basic frame of reference.
reference is a relative one.

8. Caused positions

Compared to the topological relations, when it comes to caused positions, one more salient element enters into the equation, namely an actor. Thus, there are at least three elements bearing on the conceptualization and linguistic expression: A figure, a ground, and an actor. In translational elicitation and from incidental evidence we had previously identified at least the following five verbs which might feature in the expression of caused position:

- nyina  ‘put, place’, ‘be placed’ (tr./itr.) – general for objects
- dzo  ‘put’ (general)
- kè  ‘put inside sth’
- kpaa  ‘put on a very high place’ (e.g. roof); ‘lock away’ (also by putting sth inside sth)
- bele  ‘put an object in a container somewhere’

8.1. The questionnaire

Again, an MPIN questionnaire, developed by Birgit Hellwig and Friederike Lüpke (2001 version), is available which allows the language investigator to go far beyond the data obtained through translational tasks. The questionnaire is produced on video and systematically varies the three factors named above. Essentially two types of scenes are captured: (1) Scenes where a figure is moved by an actor with relation to the ground; and (2) the same scenes but the actor being absent, and only a figure being shown in a certain position, supported by the ground. An obvious point of interest here is whether both types of situations, transitive and intransitive, are encoded similarly or divergently. For some reason, only part of the scenes with an actor are also provided without actor. Now, in addition to presence or absence of the actor, scenes are varied systematically according to type of figure and ground, thus also effecting variation in the kind of contact/support between figure and ground, number of figure, and type of action.

The list below shows the three crucial variables, actor (A), figure (F), and ground (G), on the left side, together with the scene number of the video questionnaire in brackets for reference purposes. The absence of the actor is indicated by “A.” On the right side, the linguistic encoding for each scene, the morpheme transcription, and a rough English translation are given.

Unlike in the case of topological relations, the creators of the questionnaire have not provided any groupings or situational types. We therefore arranged the scenes according to the verb actually used in Leggbó.
8.2. The data
8.2.1. nyina ‘put, place’ (tr.)

A; F bottle; G table [14]  
*e-nyina ekkpoma wôni ke ekkpokolo#*  
3SG-put bottle one LOC table  
‘A put one bottle on a table’

A; F 2 bottles; G table [10]  
*e-nyina ekkpoma ãfôr ke ekkpokolo#*  
3SG-put bottle two LOC table  
‘A put two bottles on a table’

A; F ball; G table [15]  
*e-nyina (ball) ke ekkpokolo#*  
3SG-put (ball) LOC table  
‘A put a ball on a table’

A; F 2 balls; G table [4]  
*e-nyina (ball) ãfôr ke ekkpokolo#*  
3SG-put (ball) two LOC table  
‘A put two balls on table’

A; F cassava; G table [39]  
*e-nyina jâkpu ke ekkpokolo#*  
3SG-put cassava LOC table  
‘A put a cassava on a table’

A; F cassavas; G table [26]  
*e-nyina jâkpu ãtan ke ekkpokolo#*  
3SG-put cassava three LOC table  
‘A put three cassavas on table’

A; F stick; G table [30]  
*e-nyina ëtti ke ekkpokolo#*  
3SG-put stick LOC table  
‘A put a stick on a table’

A; F pot; G table [33]  
*e-nyina izòhon ke ekkpokolo#*  
3SG-put pot LOC table  
‘A put a pot on a table’

A; F rope; G table [19]  
*e-nyina lèdudul èzi ke ekkpokolo#*  
3SG-put bundle rope LOC table  
‘A put a bundle of ropes on the table’

A; F cloth (folded); G table [12]  
*e-nyina sggô ke ekkpokolo#*  
3SG-put cloth LOC table  
‘A put cloth on table’
8.2.2. nyina 'be placed'(itr.)

-A; F bottle; G table [25]  
\[\text{ekkpoma e-nyina ke ekkpokolo}\#\]  
3SG-place bottle LOC table  
'A bottle is placed on a table'

-A; F stick; G table [44]  
\[\text{ëtu e-nyina ke ekkpokolo}\#\]  
3SG-place stick LOC table  
'A stick is placed on a table'

-A; F pot; G table [34]  
\[\text{izh\#on e-nyina ke ekkpokolo}\#\]  
3SG-place pot LOC table  
'A pot is placed on a table'

-A; F cloth; G table [42]  
\[\text{eego e-nyina ke ekkpokolo}\#\]  
3SG-place cloth LOC table  
'A cloth is placed on a table'

-A; F ball; G table [11]  
\[(\text{ball}) \ w\#ni e-nyina ke ekkpokolo\#\]  
3SG-place one LOC table  
'One ball is placed on a table'

-A; F cassava; G table [35]  
\[\text{j\#akpu e-nyina ke ekkpokolo}\#\]  
3SG-place cassava LOC table  
'A cassava is placed on a table'

8.2.3. ffangha 'wedge into, stick onto, attach to'(tr.)

A; F bottle; G tree/branch [43]  
\[\text{e-ffagha ekkpoma ke ùtti-mggba}\#\]  
3SG-stick bottle LOC tree-fork  
'A placed a bottle on a tree fork'

A; F pot; G tree/branches [8]  
\[\text{e-ffagha izh\#on ke ùtti-mggba}\#\]  
3SG-stick pot LOC tree-fork  
'A placed a pot on a tree fork'

A; F ball; G tree/branch [17]  
\[\text{e-ffagha (ball) \ w\#ni ke ùtti-mggba}\#\]  
3SG-stick (ball) one LOC tree-fork  
'A placed one ball on a tree fork'

A; F cassava; G tree/branch [31]  
\[\text{e-ffagha j\#akpu ke ùtti-mggba}\#\]  
3SG-stick cassava LOC tree-fork  
'A placed a cassava in a tree fork'
8.2.4. *ffagh* 'be wedged in between, stuck onto, attached to' (itr.)

- A: F bottle; G tree/branch [22]
  \[ \text{ekkpoma } e-ffagh \text{a} \text{ ke } \text{ittit-mggbat#} \text{ bottle } 3\text{SG-be.stuck LOC tree-fork}
  \text{ 'A bottle is stuck in a tree fork'} \]

- A: F pot; G tree/branches [18]
  \[ \text{iz边界 e-ffagh \text{a} \text{ ke } \text{ittit-mggbat#} \text{ pot } 3\text{SG-be.stuck LOC tree-fork}
  \text{ 'A pot is stuck in a tree fork'} \]

- A: F ball; G tree/branch [32]
  \[ \text{ (ball) } e-ffagh \text{a} \text{ ke } \text{ittit-mggbat#} \text{ (ball) } 3\text{SG-be.stuck LOC tree-fork}
  \text{ 'A ball is stuck in a tree fork'} \]

8.2.5. *peesgh* 'lean against' (tr.)

A: F bottle; G tree/earth [16]
  \[ e-pesgh \text{e ekkpoma woni ke } \text{ittit-lizil#}
  \text{ 3SG-lean bottle one LOC tree base}
  \text{ 'A leaned a bottle against the base of a tree'} \]

A: F stick; G tree/earth [13]
  \[ e-pesgh \text{e } \text{ittit } \text{ke } \text{ittit-kkony-lizil#}
  \text{ 3SG-lean stick.DIM LOC tree big base}
  \text{ 'A leaned a small stick against the base of a big tree'} \]

A: F cassava; G tree/cassava [23]
  \[ e-pesgh \text{e jikpu ke } \text{ittit-lizil#}
  \text{ 3SG-lean cassava LOC tree base}
  \text{ 'A leaned a cassava against the base of a tree'} \]

A: F ladder; G tree [24]
  \[ e-pesgh \text{e } \text{erwenne ke } \text{ittit#}
  \text{ 3SG-lean ladder LOC tree}
  \text{ 'A leaned a ladder against a tree'} \]

8.2.6. *kumma* 'put upside down' (tr.)

A: F bottle; G table [20]
  \[ e-kumma ekkpoma ke ekkpokolo#
  \text{ 3SG-put bottle LOC table}
  \text{ 'A put a bottle upside down on a table'} \]

A: F pot; G table [36]
  \[ e-kumma iz边界 ke ekkpokolo#
  \text{ 3SG-put pot LOC table}
  \text{ 'A puts a pot upside down on a table'} \]
8.2.7. kumma 'stand upside down' (itr.)

-A; F pot; G table [40]  
izôn e-kumma ke ekkpokolo#  
pot 3SG-be.placed LOC table  
'A pot stands upside down on a table'

8.2.8. kê 'put into' (tr.)

A; F rope; G box [27]  
e-kê lêdudül ézi ke ekpoo#  
3SG-put bundle rope LOC box  
'A put a bundle of ropes into a box'

A; F cloth (folded); G box [37]  
e-kê eggô ke ekpoo#  
3SG-put cloth LOC box  
'A put a cloth into a box'

A; F cassava; G box [7]  
e-kê jâkpu ke ekpoo#  
3SG-put cassava LOC box  
'A put a cassava into a box'

8.2.9. zênne 'hang' (tr.)

A; F rope; G branch [38]  
e-zêne ézi ke ûti-mbbô#  
3SG-hang rope LOC tree-branch  
'A hung a rope on a tree branch'

8.2.10. zênne 'hang' (itr.)

-A; cloth; G tree branch [21]  
eggô e-zêne ke ûti-mbbô#  
cloth 3SG-hang LOC tree-branch  
'A cloth hangs from a tree branch'

A; F rope; G branch [2]  
ézi e-zêne ke ûti-mbbô#  
rope 3SG-hang LOC tree-branch  
'A rope hangs from a tree branch'

8.2.11. zolo 'spill' (tr.)

A; F beans G table [5]  
e-zolo ñëzêni ke ekkpokolo#  
3SG-spill bean LOC table  
'A spilt beans on a table'

8.2.12. zolo 'be spilt' (itr.)

-A; F beans; G table [3]  
ñëzêni e-zolo ke ekkpokolo#  
bean 3SG-be.spilt LOC table  
'Beans are spilt on a table'
8.2.13. Various Verbs that only occurred once

A; F cassava on rope; G branch [29] e-silla  jēkpu  ks. nūtī-bbɔ#
3SG-tie cassava LOC tree-branch
‘A tied cassava to tree branch’

A; F beans in bowl; G table [9] e-bele  ākkpay  ēgidi  ks. ekkpokolo#
3SG-put plate bean LOC table
‘A put a bowl of beans on a table’

A; F bottle; G table [28] e-mina  ekkpoma  ks. ekkpokolo#
3SG-lay bottle LOC table
‘A lay a bottle on a table’

A; F stick; G ground [41] e-yya  ētti  ks. lēzzē#
3SG-plant stick LOC ground
‘A planted a stick into the ground’

A; F ladder; G ground [46] e-dzi  ərvene  ks. lēzzē#
3SG-put ladder LOC ground
‘A put a ladder on the ground’

A; F cloth; G table [1] e-bèmmy  ēggō  ks. ekkpokolo#
3SG-cover cloth LOC table
‘A covered a table with a cloth’

A; F pot; G table [45] e-viya  izhān  ks. ekkpokolo#
3SG-roll pot LOC table
‘X rolled a pot on a table’

-A; F rope; G table [6] lēddudil  ēzi  e-ūs  ks. ekkpokolo#
bundle rope 3SG-fall LOC table
‘A bundle of ropes falls on a table’

8.3. Generalizations and conclusions

The verb most frequently appearing in the data is nyina ‘put’, which seems to be a “default” verb broadly used with caused positions when the ground (as a result of an action or not) supports the figure. More specific situations are rendered with verbs like ʧ-tagha ‘wedge’ (7 occurrences), kumma ‘put upside down’, kê ‘put into’ (3 occurrences each), and ʧeghe ‘lean against’ (4 occurrences). The more specific verbs are triggered mainly by the kind of contact between figure and ground (e.g. ʧ-tagha, ʧeghe, ʧe ‘hang’), the position of the figure (e.g. kumma, mina ‘lie’), containment ( kê), and
specific motion of the figure (e.g. *zol* ‘spill’, *vigny* ‘roll’, *tô* ‘fall’).

On the other hand, Leggbó shows no sensitivity towards the number of the figure. Also, transitive and intransitive realizations of the same situation are encoded basically in the same manner. Some verbs like *pësghe* ‘lean against’, *mina* ‘lie’, and *bëmmi* ‘cover’ are only represented in their transitive use above, but that doesn’t mean they are actually used only transitively. Rather, an “intransitive” scene corresponding to transitive use simply wasn’t contained in the questionnaire. This reveals a broader characteristic of Leggbó, namely that a large number of verbs can be used both intransitively and transitively (and even di-transitively, although this does not appear in the questionnaire) without morphophonological change.

9. Motion verbs

9.1. Verbs of coming and going

Among motion verbs, verbs of coming and going have traditionally attracted particular attention.\(^{21}\) This is due to a number of facts, one of which is that in many languages verbs of coming and going are used extremely frequently and are often further grammaticalized to express other non-spatial notions, another being the presence or absence of deictic properties in them, depending on the language. In general, their use can vary to such a degree cross-linguistically that it has been seriously questioned that they are in any sense universal.\(^{22}\)

At the MPIN, David Wilkins designed a questionnaire which is supposed to capture the denotational range of coming and going verbs within a wider system of verbs of (intransitive) motion. The main parameters along which the paths of motion were varied in the 20-picture questionnaire are (1) anchoring of a path, that is the presence or absence of particular points of start and/or finish; (2) the orientation of the path, e.g. towards the deictic centre or not; and (3) the shape of the path. Below we will list the verbs that were used in response to the tasks given in the questionnaire. The numbers in brackets are the scene numbers from the questionnaire given for reference purposes:

- *seg* ‘go’
- *vi* ‘go out/away’, ‘exit’
- *wëel* (*jju*) ‘come’, ‘arrive’
- *nëqolxi* - ‘wind’
- *kko* - ‘circle’
- *zëe* - ‘walk’

motion from deictic center to a determinate point \([1]\)
motion from deictic center to an indeterminate destination \([2]\)
motion from a determinate source towards deictic center \([3]-[6]\)
moving around aimlessly \([8]\)
motion in circles \([9]-[12]\)

any other kind of motion; e.g. from determinate point distinct from the deictic center to other determinate

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\(^{21}\) e.g. Fillmore 1997: 77-102.

point distinct from deictic center; motion from the deictic center with a certain direction but with indeterminate destination; motion on an unanchored path; etc. [7], [18]-[20]

The results are largely unproblematic. In concordance with incidental evidence from other elicitations, we can identify sën as the typical ‘going’ verb of the language, and wéèl as the typical ‘coming’ verb, both being deictic in nature. For other kinds of motion zëë is the most frequently used verb. The form fù ‘come’, mentioned in brackets, is used suppletively for wéèl in verb serializations.

9.2. Other path verbs

From conventional elicitation, we have identified a number of additional path verbs that were not captured by the questionnaire. The following are such verbs that alone, or with a satellite (object) lexicalize the notion of a path:

- sën lèsol (‘go face’) ‘advance’
- nàà àden (‘take way’) ‘pass’
- bila ‘ascend, climb, go up’
- yóójó ‘cross, go/pass through, go past’
- ssìì à ‘descend, go down’
- vèéemè ‘depart, leave’
- kùùa ‘enter’ \(^{23}\)
- mùùjò ‘recede (e.g. from combat), return’

The example below illustrates the use of mùùjò ‘recede, return’:

\((26)\) e-mùùjò ke li Lagos\(^{24}\)
3SG-return LOC LOC (name of a place)
‘(S)he came back from Lagos’

9.3. Manner verbs

The following are verbs that alone, or with a satellite (object) lexicalize the notion of manner:

- kaa leval (‘carry race’) ‘run’
- zëë ‘walk, hike’
- kpoò leval ‘chase’
- wòòjò ‘fly’
- ggbo ‘jump’
- nyaa ‘tumble’
- kùùjà ‘crawl’
- wee ‘float, swim’
- myèëìì ‘slide’
- gbòngì ‘bounce’
- viìì ‘roll’

The following sentence illustrates the use of one of these verbs, gbòngì ‘bounce’:

\(^{23}\) The verb for ‘exit’ already appeared in the previous section.
\(^{24}\) Cf. section 6.2. for the co-occurrence of the two locative prepositions. This seems to happen most naturally when the meaning is something like ‘out of’.
(27) *isokolo sk e-ghonyi ke lexe!
  orange DEF 3SG-bounce LOC ground
  'The orange bounced back from the ground'

9.4. Verbs for direction/goal

Direction/goal is commonly indicated by the verb *nii* 'give', optionally followed by *(i)ke. nii* as the "main verb" will have its literal meaning. It only indicates a direction if serialized to a preceding manner verb of motion.

Manner+goal (V *nii* (ke) goal):

(28) e-weei e-nii lezayabb!
  3SG-swim 3SG-give river.bank
  '(S)he swam towards the river bank'

(29) e-kaa leval e-nii ke lammas!
  3SG-run race 3SG-give LOC door
  '(S)he ran towards the door'

With path verbs, the notion of goal usually needs no overt realization. The goal of motion is indicated simply as a prepositional object when entailed by the lexical meaning of the path verb (construction V *nii* (ke) goal; e.g. *sery* 'go to', *kubba* 'enter'), but can be expressed with a verb indicating an endpoint when not entailed by the path verb. Here, the verbs *gwà* 'reach' or *kpoò* 'end' are used:

(30) e-seryi ke lewol!
  3SG-go LOC village
  '(S) he went to the village'

(31) e-kubba ke lewol!
  3SG-enter LOC village
  '(S) he entered the village'

(32) e-bila ètti e-kpoò ëzo ètti!
  3SG-climb tree 3SG-end top tree
  '(S) he climbed the tree to the top'

9.5. Verb for source

be 'stand', obligatorily followed by *(i)ke* indicates the source of a motion. Independently, as a main verb, it will have its literal meaning, but if followed by a verb of motion it acquires a "source" meaning as in the following examples:

(33) e-bë ke sëppya së è-seny ke ikokài!
  3SG-stand LOC market DEF 3SG-go LOC church
  '(S) he went from the market to the church'
(34) e-bé ke èppi è-gghô#  
3SG-stand LOC wall 3SG-jump  
‘(S)he jumped from the wall’

9.6. Verbs for distance

vila indicates long distance, fôlo short distance. If serialized to a verb of motion they indicate the distance of the subject from a point of reference as either part of or result of the motion, as in the following examples:

(35) e-zëe è-fôlo ke ikoobâsi#  
3SG-walk 3SG-be.near LOC church  
‘(S)he walked close to the church’

(36) e-yôŋŋo è-fôlo ke ikoobâsi#  
3SG-pass 3SG-be.near LOC church  
‘(S)he passed close to the church’

(37) ba-kpo³i-e leval è-vila#  
3PL-chase-3SG race 3SG-be.far  
‘They chased him/her far away’

9.7. Combining path and manner

The following verb lexicalizes a combination of path and manner:  
ttè ‘fall, plunge’

However, often, a combination of path and manner describing the same motion activity is expressed in a serial verb construction. The first verb encodes the manner of motion, the second the path:

(38) e-kumya è-bilà ekkpon#  
3SG-crawl 3SG-climb hill  
‘(S)he crawled up the hill’

(39) e-kumya è-ssià ekkpon#  
3SG-crawl 3SG-descend hill  
‘(S)he crawled down the hill’

(40) e-yôŋŋo è-yôŋŋo leval#  
3SG-fly 3SG-pass village  
‘The bird flew over the village’
(41) \( e-z\check{e} \quad \acute{e}-\text{kko} \quad \text{geve} \quad s\# \)
3SG-walk 3SG-circle lake DEF
‘(S)he walked around the lake’

Path preceding manner would be infelicitous in the same meaning:
(42) \( ??e-\text{kko} \quad \text{geve} \quad s\# \quad e-z\check{e} \# \)
3SG-circle lake DEF 3SG-walk
‘(S)he walked around the lake’

There are also cases in which the path is not construed as a separate event but as a direct object to the verb (ggabo ‘jump’), or as a prepositional phrase (here with z\( \check{e} \)e ‘walk’). In the latter case, the path is simply conceptualized as the place where the activity took place:
(43) \( e-\text{ggabo} \quad \acute{e}p\check{p}i\# \)
3SG-jump wall
‘(S)he jumped over the wall’

(44) \( e-z\check{e} \quad \text{ke} \quad \acute{e}k\text{atto}\# \)
3SG-walk LOC forest
‘(S)he walked through the forest’

9.8. Combining path, manner, and goal

A combination of three verbs, manner preceding path and goal is found to be grammatically correct but no natural way of expression:
(45) \( \text{isoko} \text{lo} \quad \text{se} \quad e-\text{vin}na \quad \acute{e}-\text{ssia} \quad \acute{e}-\text{nii} \quad \text{ke} \quad \text{l}e\text{za}\text{n}a\#\)\#
orange DEF 3SG-roll 3SG-descend 3SG-give LOC river
‘The orange rolled down towards the river’

In a more natural way of expression, the path would be left out:
(46) \( \text{isoko} \text{lo} \quad \text{se} \quad e-\text{vin}na \quad \acute{e}-\text{nii} \quad \text{ke} \quad \text{l}e\text{za}\text{n}a\#\)\#
orange DEF 3SG-roll 3SG-give LOC river
‘The orange rolled towards the river’

With \( \text{nt}\# \) (‘fall, plunge’), which lexicalizes manner and path simultaneously, the goal is expressed as a prepositional object:
(47) \( e-\text{nt}\# \quad \text{ke} \quad \text{asi}\# \)
3SG-jump LOC water
‘(S)he plunged into water’
10. Transitive motion

The data in this section come from translation-based elicitation and incidental evidence.

10.1. Verbs of moving an object

In sections 5. and 7., a considerable number of verbs of moving objects (putting), in which mainly the resulting position is encoded, were already introduced. There are other verbs that encode the path and the direction of force employed by the person moving the objects, like the following:

- mëmë ‘push’
- tû ‘pull, drag’
- mème ‘remove’
- gwereke ‘raise’
- cf. also kôa wëël (‘carry come’) ‘bring’

10.2. Source, path and goal with verbs moving an object:

The expression of source, path and goal in transitive motion is fundamentally the same as with intransitive motion. It was already noted in section 7.3 that in Leggbô the transitivity of an activity does not have dramatic impact on the linguistic encoding, particularly lexical encoding. Similar to other verbs of motion, source, path and goal are expressed either by verbs or by a prepositional phrase with eke (II).

10.2.1. Source of motion, path

The original position of the object and the path of motion are usually expressed as a prepositional phrase:

(48) mëmmë ke ii ibèn#
    remove.IMP LOC LOC room
    ‘Remove it from the room!’

(49) e-tûli-ê ke lëzâni#
    3PL-pull-3SG LOC river
    ‘(S)he pulled it out of the river’

(50) e-tûli-ê ke lëzâl#
    3PL-pull-3SG LOC ground
    ‘(S)he pulled her/him up from the ground (or: ‘dragged her/him along the ground’.)’

The path can be further specified by a path verb:

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25) See previous footnote for the co-occurrence of two locatives.
(51) e-tši ekpian e-veense jke ekpokolo#
3PL-pull chair 3SG-go.away LOC table
'(S)he dragged/moved the chair away from the table'

Also, the original position of the mover can be further specified with the help of
be 'stand':
(52) e-be ke ekpon e-nmu-še e-ni 3 3SG-stand LOC hill 3SG-push-3SG 3SG-give LOC river
'She pushed it down the slope' [lit.: 'She stood on a hill and pushed it down to the river. ']

10.2.2. Goal of transitive motion

If the verb lexically entails a goal of motion, e.g. kē 'put into', kàa wēel 'bring', the
goal of motion is encoded by a simple prepositional phrase. If no goal is entailed, e.g.
tši 'pull, drag', nmui 'push', gwekkē 'raise', the verb of direction ni 3 'give' indicates the
goal:
(53) e-kē 3wēne jke essi#
3SG-put book LOC bag
'(S)he put the book into the bag'

(54) kàa wēel ke lëvi#
carry.IMP come.IMP LOC village
'Bring it to the village!'

(55) e-tši ekpian e-nii-m#
3SG-drag chair 3SG-give-1SG
'(S)he dragged the chair towards me'

(56) e-gwekkē ekpian sē e-nii jke ntwokpan#
3SG-raise chair DEF 3SG-give LOC roof
'(S)he raised the chair to the roof'

(57) nmui-še e-nii ke lëzi#
3SG-chase-3SG 3SG-give LOC ground
'Push him to the ground!'

10.3. Some generalizations and conclusions

Throughout sections 9 and 10 the following points may have been noticed:
- Notions of source, goal, and path, that in some other languages are encoded
by prepositional satellites (English), case marking on nouns (Japanese), or lexically by
compound verbs (Japanese), are preferentially expressed by serial verb constructions in
Leggbó. However, simple prepositional phrases with jke are also used, namely if the role
of the prepositional phrase in the conceptualization can easily be inferred by the clause semantics, particularly the semantics of the verb.

- With respect to Talmy's original typology of the encoding of motion events (three-way classification of languages lexicalizing either Motion+Manner/Cause, or Motion+Path, or Motion+Figure in verbs), Leggbó first of all does not show a clear bias to either manner or path. Both notions are fairly well lexicalized in the motion verb inventory. The fact that in serializations involving three or more factors (among path, manner, goal etc.) it is "path" which is omitted betrays a certain bias towards manner. This would also coincide with the tendency observed in sections 6 and 7, namely the emphasis on the activity of a figure over other potential factors such as the position of the figure. With respect to Talmy's later typology (two-way classification of verb-framed vs. satellite-framed languages), Leggbó is verb-framed, containing the path information in the verb.

11. Wrap-up

In this paper we have given an overview over some of the most basic areas of Leggbó space grammar. The framework and materials developed at MPIN have allowed us to bring to light some details that are otherwise difficult to identify. Perhaps the most distinguishing feature of Leggbó space language is the focus on activities and, consequently, verbs, rather than entities and their shapes, or static relationships. This is a fact that is potentially of considerable typological interest. The circumstance that Leggbó does not have a specific expression for 'under'-relations adds an attractive detail. Our description of the verbs of movement has been comparatively sketchy, but the analytic expression of complex motion events through serial verbs apparently constitutes the basic pattern in this language.

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References


