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CHAPTER EIGHT

PERCEPTION VERBS AND THEIR SEMANTICS IN DONGOLAWI (NILE NUBIAN)\(^1\)

Angelika Jakobi and El-Shafie El-Guzuuli

1 Introduction

The Dongolawi language is spoken in the Nile Valley of northern Sudan, roughly between the 3rd cataract south of Kerma town upstream to the big bend of the Nile near ed-Debba (as shown on Map 8.1). ‘Dongolawi’ is an Arabic term based on the name of the town of Old Dongola on the eastern side of the Nile, which was the centre of Makuria, the famous Christian kingdom that flourished between the 6th and 14th century. Today’s Dongola was founded during the 19th century on the western side of the Nile. The Dongolawi speakers call their language Andaandi (an-da-n-di) ‘[the language] of my/our home’.

Dongolawi speakers are also speakers of Sudanese Colloquial Arabic, the lingua franca of Sudan. Arabic/Dongolawi bilingualism can be characterized as replacive in the sense that Dongolawi is threatened by complete replacement by Arabic (Jakobi 2008). This is reflected by the dwindling number of Dongolawi speakers and the growing impact of Arabic on this language. This paper will show that Arabic loan words are attested even in the semantic field of perception verbs.

Dongolawi is closely related to Kenzi which is spoken in southern Egypt. In linguistic studies, therefore, both languages are often referred to by one term, Kenzi-Dongolawi, even though, *Ethnologue* now treats Kenzi and Dongolawi as two separate languages (i.e. [xnz] and [dgl], respectively). Along with Nobiin and Old Nubian these languages form the Eastern, i.e. Nile Nubian branch of the Nubian language family. Nubian is a member of the Northern sub-group of Eastern Sudanic and ultimately classified as a Nilo-Saharan language.

\(^1\) We gratefully acknowledge Alexandra Aikhenvald and Anne Storch’s commentary on the first draft of this paper. We are also very grateful to Gerrit Dimmendaal for reading a more recent draft. His suggestions have deepened our understanding of the topic.
Kenzi-Dongolawi boasts a long record of linguistic studies including the works of Leo Reinisch (1879, 1911), Richard Lepsius (1880), Herman Almkvist (1911), Gertrud von Massenbach (1933), and Charles H. Armbruster. The latter published an impressively detailed Dongolawi grammar (1960) and lexicon (1965). There are a large number of annotated Kenzi texts published by Heinrich Schäfer (1917 and 1935), by Hermann Junker, and Heinrich Schäfer (1921). Moreover, Gertrud von Massenbach (1962) published a volume of Kenzi and Dongolawi texts along with a glossary. The first modern study of Kenzi is Ahmed Sokarno Abdel-Hafiz’ reference grammar of Kunuz (i.e. Kenzi) published in 1988. Recently linguistic research on Dongolawi has been resumed by Marcus Jaeger and Kamal Hissein (2008) as well as by Marcus Jaeger and El-Shafie El-Guzuuli (2012). Moreover, Naasir Satti (2008), a mother tongue speaker of Dongolawi, has

written a PhD thesis focusing on the grammatical analysis of phrases and clauses. While in previous linguistic studies of Dongolawi and Kenzi tonal issues were completely ignored, Satti’s thesis provides first preliminary evidence that tone is grammatically and lexically important.

The data in this paper are not tone-marked, however, because it is not based on fieldwork carried out within a Dongolawi language community. Rather, the data is drawn from different sources, comprising Massenbach’s Dongolawi texts (examples below are marked by M), Armbruster’s Dongolese lexicon (DL), Dongolawi proverbs provided by Marcus Jaeger (MJ), examples from Naasir Satti (NS), and, most importantly, from the co-author, El-Shafie El-Guzuuli (Sh) who is a native speaker of Dongolawi engaged in the maintenance and revitalization of his mother tongue as well as in developing a Dongolawi orthography. In fact, this paper has emerged from the authors’ ongoing discussion of linguistic and orthographic issues encountered in Dongolawi.

Dongolawi is characterized by the following typological features. It has basic SV/AOV constituent order, but OAV order is also attested (see example 15 below). Grammatical relations are expressed both by participant markers on the verb and by the clitic case marker =gi on the object constituent. The Agent role is encoded as unmarked subject, as illustrated in (1). The same morphosyntactic pattern is found in (2), although the unmarked subject constituent encodes a natural phenomenon (rather than an animate, instigating Agent). Locative, ablative, directional, and temporal noun phrases are marked by the clitics =r (or its allomorphs =ir/do/ro), =ged, =gaddi, and =gi, respectively.

In view of the fact that grammatical relations are morphologically marked on the verb and on the object constituent, Dongolawi is considered to be both head-marking and dependent-marking on the clause level.

(1) Esmaan elum=gi bee-ko-n Sh
   <name> crocodile=obj kill-per-3sg
   Osman has killed a crocodile

2 We gratefully acknowledge the Dongolawi data which Marcus Jaeger and Naasir Satti contributed to our paper.
3 All examples are written according to the Dongolawi orthography rules developed by Marcus Jaeger and El-Shafie El-Guzuuli (2012).
4 The terms head-marking and dependent-marking are adopted from Nichols (1986).
According to Satti (2008), there are two genitive constructions, i) type 1 with the possessor (marked by the clitic \(=n\)) preceding the possessed, ii) type 2 with the possessed preceding the possessor (marked by \(=n\)) plus the property marker (-\(\text{di}\)). The latter construction is illustrated in the language name \textit{an-daa-n-di} above. Adjectives follow their head noun, whereas demonstratives precede it.

The morphological structure is generally agglutinative but inflectional morphemes on the verb are often fused. Verbal morphology is rich in derivational and inflectional morphemes. Verbs are obligatorily inflected for person and number of the subject. Person and number of the subject are often fused, i.e. syncretism occurs in this grammatical domain. Furthermore, the morphological contrasts between the 2nd and 3rd person singular as well as between the 1st and 2nd person plural are neutralized; they are marked by -\(n\) and -\(u\), respectively.

There are several derivational suffixes that either raise or reduce transitivity, including a transitivizer (-\(\text{ir}\)), causative (-\(\text{kir, kiddi}\)), benefactive (-\(\text{tir,deen}\)), passive (-\(\text{katti}\)), stative/progressive (-\(\text{buu}\)), and inchoative morpheme (-\(\text{an}\)). Among the morphemes marking tense, aspect, and mood, there are two referring to events in the past. The choice between these suffixes, -\(\text{ko}\) (-\(\text{go}\)) and -\(\text{si}\) (glossed as \textit{per} and \textit{pst}) depends on whether they occur in a main or subordinate clause.

A conspicuous feature of Dongolawi clauses are multverb constructions composed of individual verbs which may also occur in monoverbal clauses. Compare \textit{nog} in the multverb constructions (3) and (4) to (12) where \textit{nog} represents the only verb in the subordinate clause. In a multverb construction, the final verb takes the inflectional morphemes whose values for person, number, tense, mood, negation have scope over the entire clause, as seen in (3) and (4). A series of individual verbs may be non-contiguous allowing other constituents to occur between the verbs, as illustrated by the locative noun phrase in (24) and by the object clause in (30). Furthermore, the individual verbs may have the same or different transitivity values. While in example (3) \textit{nii-ed} ‘drink’ represents a transitive verb with \(\text{fay=gi} \) ‘tea’ as its syntactic object, the verbs \textit{imbel} and \textit{nog} are intransitive verbs.

Although the individual verbs in a multverb construction share the inflectional values for person, number, tense, mood, and negation,
they may be marked by different aspect markers, as shown by the suffixes -os and -ed in example (3). Armbruster (1960: §3790) claims that -os and -ed do not occur on stative verbs like buu ‘lie’, aag ‘sit, squat’, daa ‘exist’, e ‘say’, which suggests that the occurrence of these morphemes may be motivated by telicity. More research, however, is needed to find out about the distribution and function of these aspect morphemes. Contrary to Armbruster’s observation, the verb aag very commonly takes the suffix -ed, such as in esmaan ar gonon uguun toortin bokkon aaged nog-kon ‘Osman sat with us till midnight and left’. For the time being, in the examples below, the aspect markers -os and -ed will be glossed as asp1 and asp2, respectively.

(3) ʃay=gi nii-ed bedd-os imbel nog-iran M
tea=obj drink-ASP2 pray-ASP1 get_up go_along-pres.3pl
they drink tea, pray, rise and walk away

(4) imbel nog ju kal-we Sh
get_up go_along go eat-temp.2pl
get up, go and eat!

Examples (3) and (4) also illustrate that in a multiverb construction the order of components is iconic, i.e. the linear order of individual verbs reflects the chronological sequence of events. However, as we will show below, when such constructions involve perception verbs they may acquire a purpose reading.

In sum, the typological characteristics of the multiverb constructions in Dongolawi suggest that we are dealing with serial verb constructions as defined by Aikhenvald (2006) in her cross-linguistic study.

2 Research Questions

This paper is restricted to five sensory modalities: sight, hearing, smell, touch, and taste. It is concerned with the question how they are expressed by the corresponding physical perception verbs. The events associated with these sense-modalities comprise i) controlled/conscious attentive activities, e.g. look at, listen to, smell/take a sniff at, ii) uncontrolled spontaneous experiences, e.g. see, hear, smell, and iii) source/phenomenon-based states or inchoative processes, e.g. be visible, sound, emit a smell. In other words, physical perception may be activity-oriented, experience-oriented, or source-oriented.
In contrast to a prototypically transitive event involving an initiating or instigating Agent and an affected Patient, both an attentive activity-oriented event and an uncontrolled spontaneous experience-oriented event lack prototypical transitivity. Rather, perceptual events are associated with the semantic roles of Experiencer (the perceiving entity) and Source/Phenomenon (the perceived entity). In some languages, the semantic roles of Experiencer and Phenomenon require special grammatical encodings. In English, for example, the Phenomenon is encoded by oblique case marking, as attested by the verbs *look at, listen to, take a sniff at*.

Languages differ according to the lexicalization patterns of perception verbs. In some languages active and spontaneous visual perception, for example, are realized by different verb roots, as illustrated by English *look* and *see*. In other languages, the same root is used as attested by *xuud* in Kambataa, a Cushitic language of Ethiopia (Treis 2010). Moreover, a perception verb root may cover more than one sense-modality. In Swahili, a Bantu language of East Africa, for example, *sikia* expresses both auditory activity ‘listen to’ as well as olfactory activity ‘smell’, ‘take a sniff at’. In Setswana, a Bantu language of Botswana, there is one verb, *utlwa*, covering four sense-modalities, as it expresses experienced hearing, touching, tasting, and smelling. There are, however, hierarchical restrictions on the possible patterns of polysemy. According to the (simplified) sense-modality hierarchy (Viberg 2001: 1297), sight is at the top of this hierarchy. It is followed by hearing. The lowest ranking sense-modalities are smell, touch, and taste, and, therefore, they are often lexically expressed by the same perception verb. This hierarchy is correlated with markedness. It predicts that semantically unmarked verbs rank high and semantically marked verbs rank low in the hierarchy.

Apart from these cases of ‘intrafield’ polysemy within the domain of physical perception verbs there are also cases of ‘transfield’ polysemy. Visual and auditory perception verbs, which rank high in the sense-modality hierarchy, tend to acquire cognitive readings. English *see*, for instance, is semantically extended to ‘understand’, German *hören* ‘hear’ is also used to express *verstehen* ‘understand’. Such semantic extensions of physical perception into the field of mental/cognitive perception appear to be influenced by cultural factors, as Evans and Wilkins (2000) assume.

This present paper will address the following questions. How are the five sense-modalities lexically expressed in Dongolawi? How are the role of Experiencer and Source/Phenomenon grammatically encoded in...
Dongolawi? What are the lexicalization patterns of the perception verbs? Are there semantic extensions into other sense-modalities and into the semantic field of cognition?

3 Physical Perception Verbs

The following table accounts for the sense-modalities sight, hearing, smell, touch, and taste and for the basic verbs expressing activity-oriented, experience-oriented or phenomenon-oriented physical perception.

<table>
<thead>
<tr>
<th>Sense-modality</th>
<th>Activity-oriented</th>
<th>Experience-oriented</th>
<th>Phenomenon-oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>sight</td>
<td>nal</td>
<td>nal</td>
<td>waandi</td>
</tr>
<tr>
<td>hearing</td>
<td>gijir</td>
<td>gijir</td>
<td>gijir-katti</td>
</tr>
<tr>
<td>smell</td>
<td>sunde</td>
<td>gijir</td>
<td>iris=ki ko, numme</td>
</tr>
<tr>
<td>touch</td>
<td>tabbe, jaabe</td>
<td>hissee (&lt; Ar.)</td>
<td>–</td>
</tr>
<tr>
<td>taste</td>
<td>tance</td>
<td>tance</td>
<td>–</td>
</tr>
</tbody>
</table>

We will discuss these physical perception verbs in turn starting with visual perception.

3.1 Sight

In Dongolawi, there is one basic verb, *nal*, expressing both controlled visual activity and uncontrolled visual experience. In both cases *nal* takes two arguments, i.e. it occurs in a formally transitive clause in which the Experiencer is encoded as unmarked subject and the Source/Phenomenon is marked by the clitic object marker =gi.

3.1.1 Verbs Expressing Visual Activity

Evidence of *nal* as expressing a controlled visual activity is provided by the fact that it may be used in imperative forms, as seen in (5). The verb *nal* has several shades of readings which range from attentive directed ‘looking’ and ‘watching’ to the semantic domains of cognitive perception and social behaviour. Controlled directed looking is attested in the following examples, where *nal* has the readings ‘look at’ as in (5) and (6), ‘look out for’ as in (7), ‘look for’ as in (5), and ‘watch’ as in (8) and (9).
nal—‘look at’, ‘look for’ DL
(5) tek=ki nal
3sg=OBJ see.IMP.2sg
look at/for him/her/it!

nal—‘look at’ DL
(6) ay bi nal-li
1sg,SU FUT see-PRES.1sg
I’ll look at [it]

nal—‘look out for’ DL
(7) duul weer=ki nal
large IDF=OBJ see.IMP.2sg
look out for a large one!

nal—‘see’, ‘watch’ Sh
(8) boolis magas=ki dukkaan=do too-buu-n nal-ko-n
police thief=OBJ shop=LOC enter-PROG-3sg see-PER-3sg
the policeman saw/watched the thief enter the shop

nal—‘see’, ‘watch’ DL
(9) er ogij kiis=ir undur-si-n-gi nal-ko-naa
2sg,SU man bag=LOC put_into-PST-3sg-OBJ see-PER-2sg.Q
did you see (i.e. watch) the man put [it] into the bag?

The following examples (10) to (15) illustrate the readings of nal as ‘greet’, ‘meet’, ‘visit’, ‘look after’, ‘guard’, ‘protect’, which show that the semantics of nal extend into the domain of social interaction.

nal—‘greet’ NS
(10) ay=gi nal-os
1sg=OBJ see-ASP1
greet me! / say hello to me! / shake hands with me!

nal—‘see, meet’ Sh
(11) ay Esmaan=gi suug=ir nal-kori
1sg,SU <name>=OBJ market=LOC see-PER3sg
I have seen/met Osmaan in the market

nal—‘see, meet’ Sh
(12) er=on innowwi=gi shefii=ki nal-ki-n
2sg,SU=EMPH? today=OBJ <name>=OBJ see-COND-2sg
isikki intaad dungula=gaddi nog-buu-n-gi
ask.IMP.2sg when Dongola=towards go_along-PROG-3sg-OBJ
if you see/meet Shafijie today ask him when he will go to Dongola

nal—‘see’, ‘meet’, ‘visit’ Sh
(13) in tannan ogij ay ju nal-s-i
this s/he is man 1sg,SU go see-PST-1sg
this is the man that I met/visited (lit. this is the man that I went to and saw)
nal—‘look after’, ‘guard’ Sh

(14) ay wide taa-ri bokkon in an
 1sg.SU return come-pres.1sg until this my
bitaan=gi nal
  child=OBJ see.imp.2sg
look after/guard my child until I come back

The following utterance is heard when someone had an accident but was not seriously injured. The basic AOV constituent order is reversed, most probably because of pragmatic reasons.

nal—‘protect’ NS

(15) ek=ki arti nal-ko-n
 2sg=OBJ God protect-per-3sg
God has protected you

The semantic extension of controlled visual activity into the domain of cognition is attested by the following examples (16) to (18), where nal has the readings ‘examine’, ‘ascertain’, ‘think about’.

nal—‘examine’ Sh

(16) doktoor koor=ki nal-ko-n
  doctor wound=OBJ see-per-3sg
the doctor examined the wound

nal—‘see, ascertain’ DL

(17) ten maktab=ki saa minkotteer=ro
 3sg.gen office=OBJ hour how_many=loc
kus-in=gi nal
  open-3sg=OBJ see.imp.2sg
see (i.e. ascertain) at what time he opens his office

nal—‘think about’ Sh

(18) ay abaag=ked bi nal-li
 1sg.SU end=ABL fut see-pres.1sg
I will think about it later

3.1.2 Serial Verb Constructions With nal

The verb nal often occurs in serial verb constructions, where it always occupies the final position ((V) + V + nal). The reversed position (nal + V + (V)) is not admitted. The verbs preceding nal may belong to the same or to a different semantic field. Thus nal is attested in combination with other physical perception verbs, as in (19) and (20), and with verbs of bodily (rather than mental) activity, including motion verbs, as attested in (21) to (25).
Perception verb + nal
(19) guucci nāl
look at see.imp.2sg
1) look at it carefully!/examine well!
2) think about it!

(20) guucci nāl ter=on juu-bu-ki-n
look see.imp.2sg s/he=EMPH go-prog-cond-3sg
check if s/he is coming

Bodily activity verb + nal
(21) shidar=ro darri nāl
climb up the tree and look for [it]!

(22) mohatta=r nog ju nāl
go_along go see.imp.2sg
go along to the station and ascertain!

(23) tood tinn-essi=gi bokki nāl-ko-n
the boy hid and looked at his sister/he looked at his sister secretly

(24) bood ju uru=r tebee nāl
run go river=loc search see.imp.2sg
go quickly to the river and look for it [e.g. something lost there]!

(25) ur=ki undur nāl
think about it! (lit. put [your] head into it and see)

Table (8.2) provides some examples (in the unmarked 2nd person singular imperative form) of serial verb constructions in which nāl always appears as the last verb. This list is by no means exhaustive. The first five examples show nāl being preceded by other verbs expressing active perception. Depending on the context, in these constructions nāl may adopt a cognitive meaning that may be rendered as ‘check’ or ‘find out’ or even ‘think about something’ when taking English as the metalanguage. The individual verbs preceding nāl express events that may be considered as prerequisites for checking or finding out something. So these constructions often imply a sense of purpose. (Dongolawi has, however, yet other constructions for expressing purpose.)
### Other Activity-Oriented Perception Verbs

Apart from *nal*, there are other perception verbs expressing controlled visual activity. They appear to be semantically more specific than *nal*. They include *guuɲci* ‘look at, watch’,6 *jiindi* ‘stare at’, ‘stare at somebody in an intimidating or warning manner’ and *naaŋe* ‘peep’, ‘watch secretly’, as shown in example (26) to (30). These verbs are attested in serial verb constructions, too, as attested in (27), (29), and (30). Interestingly, the sequence of the visual perception verbs *jiindi* and *guuɲci* in (29) and *naaŋe* and *nal* in (30) may not be reversed. This finding is explainable in terms of the perception verb hierarchy which predicts that semantically less marked verbs rank higher and the more marked verbs rank lower in the hierarchy. The less marked visual perception verbs *guuɲci* in (29) and *nal* in (30) are always found in clause-final position.

<table>
<thead>
<tr>
<th>Perception Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>guuɲci nal</em></td>
<td>look at to check/find out, think about it</td>
</tr>
<tr>
<td><em>gijir nal</em></td>
<td>listen to check/find out</td>
</tr>
<tr>
<td><em>sunde nal</em></td>
<td>smell to check/find out</td>
</tr>
<tr>
<td><em>tabbe nal</em></td>
<td>touch to check/find out</td>
</tr>
<tr>
<td><em>tance nal</em></td>
<td>taste to check/find out</td>
</tr>
<tr>
<td><em>tebee nal</em></td>
<td>search to check/find out</td>
</tr>
<tr>
<td><em>bokki nal</em></td>
<td>hide to check/find out</td>
</tr>
<tr>
<td><em>kutte teeb nal</em></td>
<td>get down, stand up and check/find out</td>
</tr>
<tr>
<td><em>teeg-os nal</em></td>
<td>sit down and check/find out</td>
</tr>
<tr>
<td><em>tubb-os nal</em></td>
<td>lie down and check/find out</td>
</tr>
<tr>
<td><em>nog ju nal</em></td>
<td>go along, go and ascertain</td>
</tr>
</tbody>
</table>

---

6 The verb *guuɲci* also has the reading ‘await, expect someone’. 

---

jiindi—‘stare at’ Sh

(28) ay tek=ki jiindi-ri gaal
   1sg.su 3sg=OBJ stare-PRES.1sg when
   sandi-go-n
get_afraid-PER-3sg
   when I stared at him [intimidatingly] he got afraid

jiindi guuɲci—‘stare at’ Sh

(29) ay tek=ki jiindi guuɲci-gori
   1sg.su 3sg=OBJ stare_at look-PER.1sg
   I looked at him/her staring intimidatingly

naaŋe—‘peep’, ‘watch secretly’ Sh

(30) ju man adem kaa=r toor-el=gi
   go that person house=LOC enter-PART.PER=OBJ
   naaŋe  nal
   peep see.IMP.2sg
   go to the house and watch [secretly] that person who has entered

3.1.4 Experience-Oriented Visual Perception

Spontaneous/uncontrolled visual perception is expressed by *nal*, as attested by the following examples (31) and (32). Example (31) illustrates *nal* in a transitive clause, example (32) in an intransitive clause with an unmarked single argument.

(31) er kannee=r-toon taa-n taad Sh
   2sg.su north=LOC-from come-2sg when
   jaama wee=gi bi nal-in
   mosque ID=OBJ FUT see-2sg
   when you come from the north, you will see a mosque [as a landmark]

(32) adem dungur nal-mun Sh
   person blind see-NEG.3sg
   a blind person does not see / a blind person can’t see

3.1.5 Source-Based Visual Perception

The verb *waandi* ‘appear, become visible, come in sight’ expresses source-based inchoative visual events, cf. (33) and (34), grammatically encoded in intransitive clauses with unmarked single arguments.

waandi—‘come in sight’ DL

(33) mufettʃ waand-os-ko-n
    inspector become_visible-ASP1-PER-3sg
    the inspector has come in sight
If the water recedes the stone becomes visible.

The moral of this proverb would be: Your weaknesses will soon become visible.

3.2 Hearing and Smelling

There is one verb, *gijir* 'perceive with ear' and 'perceive with nose', which semantically covers auditory activity, as in (35) and (36), auditory experience, as in (41), (42), (43), as well as olfactory experience, as in (44) and (45).

3.2.1 Auditory Activity

The imperative form in (35) attests that *gijir* is an activity-oriented verb. Similar to *nal*, *gijir* occurs in transitive clauses where the Experiencer is encoded as unmarked subject and the Phenomenon as marked object.

\[ gijir—'listen to', 'take advice' \]

\[ (35) \text{andi}=gi \quad gijir \]
\[ \text{mine}=\text{obj} \quad \text{hear/smell.imp.2sg} \]
\[ 1) \text{listen to me!}, \quad 2) \text{listen to my advice/opinion!} / \text{take my advice!} \]

\[ gijir—'listen' \]

\[ (36) \text{tinn-aaw} \quad \text{igid-i}=gi \quad \text{iig-ki-n} \]
\[ \text{his-grandmother} \quad \text{story-pl}=\text{obj} \quad \text{narrate-cond-3sg} \]
\[ \text{todd} \quad \text{gijir-in} \]
\[ \text{boy} \quad \text{hear/smell-3sg} \]
\[ \text{when his grandmother narrates the stories, the boy listens} \]

*Gijir* may also have the reading ‘take advice’, ‘obey’, as attested in (35) above and (37) below. That is, it extends into the semantic field of social behaviour.

\[ gijir—'listen', 'obey' \]

\[ (37) \text{ek}=ki \quad \text{wee-ran}=gi \quad \text{gijir} \]
\[ 2sg=\text{obj} \quad \text{tell-pres.3pl}=\text{obj} \quad \text{hear/smell.imp.2sg} \]
\[ 1) \text{listen to what they tell you!}, \quad 2) \text{obey to what they tell you!} \]

As for the question whether *gijir* also has the reading ‘understand’ as in (38) below, we would like to point out that ‘understand’ here expresses
hearing, i.e. physical auditory perception rather than cognitive perception. Therefore we agree with Armbruster (1965: 79) who explicitly notes that *gijir* does not render ‘understand’ as a cognitive process, “(*gijir* does not=understand)”. Rather, cognitive understanding in the sense of ‘grasp’ is lexically expressed by *aar*, which is another polysemous verb with the basic meaning ‘seize’, as illustrated in (39). Dongolawi *aar* therefore presents another example of the close semantic association between prehension verbs like ‘take’ and ‘grasp’ and cognition which exists in many languages, e.g. German *be-greifen* ‘be-grasp’ (Vanhove 2008).

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>gijir</strong>—‘listen’, ‘hear’, ‘understand’</td>
<td>Sh</td>
</tr>
</tbody>
</table>
| (38) | ay ek=ki wee-ri=gi er  
1sg.SU 2sg=OBJ tell-PRES.1sg=OBJ 2sg.SU  
gijir-naa  
hear/smell-2sg.Q  
1) do you hear what I am telling you?, 2) do you understand what I am telling you? |

| **aar**—‘seize’, ‘understand’, ‘grasp’ | Sh |
| (39) | ay ek=ki wee-ri=gi er  
1sg.SU 2sg=OBJ tell-PRES.1sg=OBJ 2sg.SU  
aar-naa  
seize-2sg.Q  
do you grasp what I am telling you? |

There is another semantically more restricted verb expressing auditory activity, *ulukkij* ‘eavesdrop’. This verb is morphologically composed of three parts, *uluk-k-*ij The first part is *ulug* ‘ear’, the second part is difficult to identify. The final -ij is a derivational morpheme which marks verbs expressing intensive/repetitive (Armbruster 1960: § 2883) or distributive (Sokarno 1988: 117) events.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ulukkij</strong>—‘eavesdrop’</td>
<td>Sh</td>
</tr>
</tbody>
</table>
| (40) | ey ulukkij-ed teeb-kori tin baɲɲid=ki  
1sg.SU eavesdrop-ASP2 stand-PER.1sg their talk=OBJ  
addee-s-an bokkon  
finish-PST-3pl till  
I stayed eavesdropping till they finished their talk |

3.2.2 Auditory and Olfactory Experience

When *gijir* expresses uncontrolled auditory and olfactory experience it takes two arguments, the Experiencer and Source/Phenomenon roles
being encoded as grammatical subject and object, respectively, as illustrated in (41) to (45).

\[\text{gijir—'hear'} \text{ M/Sh} \]
\[(41) \text{ een his=ki gijir-os=gi war wide} \]
\[\text{woman noise=OBJ hear/smell-ASP1=OBJ jump turn} \]
\[\text{guunjci-go-n} \]
\[\text{look-PER-3sg} \]
\[\text{upon hearing the noise the woman jerked round and looked back} \]

\[\text{gijir—'hear'} \text{ Sh} \]
\[(42) \text{ tood arabiyye=n harak=ki gijir-ko-n} \]
\[\text{boy car=GEN sound_of_motion=OBJ hear/smell-PER-3sg} \]
\[\text{the boy heard the sound of motion of a car} \]

\[\text{gijir—'hear'} \text{ DL} \]
\[(43) \text{ wel=n uukkid=ki gijir-kori} \]
\[\text{dog=GEN barking=OBJ hear/smell-PER.1sg} \]
\[\text{I heard the barking of the/a dog} \]

\[\text{gijir—'perceive a smell'} \text{ Sh} \]
\[(44) \text{ er in siyatti=gi gijir-naa} \]
\[\text{2sg.SU this bad_smell=OBJ hear/smell-2sg.Q} \]
\[\text{do you perceive this bad smell?} \]

\[\text{gijir—'notice a smell'} \text{ DL} \]
\[(45) \text{ jugiid=n iris=ki gijir-ri} \]
\[\text{burning=GEN smell=OBJ hear/smell-PRES.1sg} \]
\[\text{I notice a smell of burning} \]

3.2.3 **Source-Based Auditory Perception**
Phenomenon-based or source-based hearing may be expressed by the passive form derived from the root *gijir*, as in (46.a) where the semantic Patient (*ten his*) is encoded as grammatical subject of an intransitive clause. However, there are other non-perception verbs that may be used to render the perception of a sound or noise coming from a source, as in (46.b) and (46.c).

\[\text{gijir-katti—'be heard'} \text{ Sh} \]
\[(46.a) \text{ Ahmed oddi-n ten his} \]
\[\text{<name> sick-3sg his voice} \]
\[\text{gijir-katti-mun} \]
\[\text{hear/smell-pass-NEG.3sg} \]
\[\text{Ahmed is sick. His voice cannot be heard.} \]
Ahmed oddi-n ten his bel-mun
Ahmed is sick. His voice cannot be heard. (lit. Ahmed is sick. His voice does not come out.)

Ahmed oddi-n ten his dii-buu-n
Ahmed is sick. His voice is dead.

3.2.4 Olfactory Activity
The smelling activity ‘smell’, ‘take a sniff at’ is not expressed by *gijir* but by a different verb, *sunde* (variant: *sunne*), as illustrated in (47) and (48).

A special lexical root, *sumsum* ‘sniff’, is used for olfactory activity of animals, as shown in (49) and (50). Except for (49), in all examples the Experiencer is encoded as subject and the Source/Phenomenon as object.

sunde—‘smell, take a sniff at’
(47) in=gi sunde
this=OBJ smell.imp.2sg
smell this!

sunde—‘smell, take a sniff at’
(48) een iris=ki sunde-nal-ko-n
woman parfume=OBJ smell-see-per-3sg
the woman smelled the parfume (to find out whether she liked it or not)

sumsum—‘sniff (at)’
(49) wel sumsum-in gon daa-n
dog sniff-pres.3sg while go-pres.3sg
the dog is going around sniffing here and there (lit. the dog is sniffing while going)

sumsum—‘sniff (at)’
(50) wel kiid=ki sumsum-ko-n
dog bone=OBJ sniff-per-3sg
the dog sniffed at the bone

3.2.5 Phenomenon-Oriented Olfactory Perception
Phenomenon-oriented olfactory perception may be rendered either by the periphrastic expression *iris=ki ko*, literally ‘have a smell’, ‘emit a smell’, as in (51) and (52), or by the evaluative verb, *numme* ‘have a good smell’, as in (53) and (54). Apparently, there is no corresponding verb with the reading ‘have a bad smell’. Note that *iris* has a general reading ‘smell’ without specifying whether the smell is good or bad, as attested in (51) but in a more restricted sense *iris* means ‘perfume’, as in (53). According to Dimmendaal...
and Schneider-Blum (this volume) such additional meanings are often expressed in languages in the area by adding ideophones to such verbs.

\[\text{iris}=\text{ki} \quad \text{ko—‘have a smell’} \quad \text{DL}
\]

(51) \text{iris}=\text{ki} \quad \text{koo-n}

\text{smell=OBJ \ have-3sg}

he/she smells (lit. he/she has a smell [whether good or bad])

\[\text{iris}=\text{ki} \quad \text{ko—‘have a smell’} \quad \text{DL}
\]

(52) \text{in kusu \ iris \ weer=ki \ koo-n}

\text{this meat} \quad \text{smell idf=OBJ \ have-3sg}

this meat smells / this meat has a smell

\[\text{numme—‘have a good smell’} \quad \text{Sh}
\]

(53) \text{in \ iris=ki \ sokke \ misse \ numme}

\text{this perfume=OBJ \ take \ spray \ have\_a\_good\_smell\_imp.2sg}

take this perfume, spray it [on your body] to have a good smell!

\[\text{numme—‘have a good smell’} \quad \text{Sh}
\]

(54) \text{erkanekool=gi \ numme-gir-we}

\text{bridegroom=OBJ \ have\_a\_good\_smell-caus-imp.2pl}

make the bridegroom smell good!

3.3 Touch

For controlled tactile activity there are three verbs, \textit{tabbe}, \textit{jaabe}, and \textit{tabtab}. The last one is semantically restricted as it expresses palpating in a medical examination or feeling around for something that one cannot see, as illustrated in (59) and (60).

\[\text{tabbe—‘touch’} \quad \text{Sh}
\]

(55) \text{een \ wel=gi \ tabbe-go-n}

\text{woman} \quad \text{dog=OBJ \ touch-per-3sg}

the woman touched the dog

\[\text{tabbe—‘touch’} \quad \text{Sh}
\]

(56) \text{een \ kal=gi \ tabbe \ nal-ko-n}

\text{woman} \quad \text{food=OBJ \ touch \ see-per-3sg}

the woman touched the food (to find out whether it is hot)

\[\text{jaabe—‘touch’} \quad \text{Sh}
\]

(57) \text{tokkon \ in=gi \ jaabe-men}

\text{NEG.IMP \ this=OBJ \ touch-NEG.IMP.2sg}

don't touch this!

\[7\] Apart from ‘touch’, \textit{tabbe} has the meaning ‘dip in’, ‘make wet’, ‘moisten’.

jaabe—‘touch’ Sh

(58) er-on eski-gi-n imbel ogoode ju man
2sg.SU-EMPH can-COND-3sg get_up stand go that
gur=ki jaabe
bull=OBJ touch.IMP.2sg
if you can/dare, get up, go and touch that bull!

tabtab—‘feel around for’ Sh

(59) ay doolaab=n jer=ked tabtab
1sg.SU cupboard=GEN back=ABL feel_around_for
nal-kori el-ko-mun
see-PER.1sg find-PER-NEG.1sg
I searched for it behind the cupboard, but I did not find it

tabtab—‘feel around for’ Sh

(60) doktoor bitaan=n ii=gi tabtab nal-os
doctor child=GEN arm=OBJ feel_around_for see-ASP1
asal=gi taa-we e-go-n
tomorrow=OBJ come-IMP.2pl say-PER-3sg
the doctor examined the child’s arm and said come again tomorrow

Uncontrolled tactile experience is expressed by hissee ‘feel’, a loan word from Arabic, cf. (61) to (63). Note that hissee lexically covers two notions, feeling by direct contact, as in (61), and perceiving without direct contact. The latter is illustrated in (62) where the hen perceives/feels the imminent danger before the falcon has even touched and seized the hen. In (63), too, the heat of the iron is perceived/felt without even touching it.

hissee—‘feel (direct contact)’ Sh

(61) een kulu kinna-tod weer=ki tenn ossi=n
woman stone small-DIM IDF=OBJ her foot=GEN
togoo=r hissee-go-n
bottom=LOC feel-PER-3sg
the woman felt a small stone under her foot

hissee—‘feel (without direct contact)’, ‘perceive’ M/Sh

(62) dummade sirrij=ki hissee-ki-n tirti-nci
hen falcon=OBJ feel-COND-3sg master-pl
gijir-os-gi bood ju sirrij=ki tuur-ran
hear-ASP1-OBJ run go falcon=OBJ chase_away-PRES.3pl
when the hen feels/perceives the falcon and when the owners hear it [the hen] they go quickly to chase the falcon away

hissee = ‘feel (without direct contact)’, ‘perceive’ Sh

(63) ay in faarti jugrii e-n-gi hissee-ri
1sg.SU this iron hot be-3sg-OBJ feel-PRES.1sg
I feel/perceive that this iron is hot (even before touching it)
Apparently Dongolawi does not have a specific verb expressing a tactile phenomenon, such as ‘the cloth feels smooth’, ‘the body feels hot’ (German sich anfühlen).

3.4 Taste

The verb _tance_ expresses both gustatory activity and experience. As an activity verb, _tance_ can be used in the imperative form as attested in (64). Gustatory activity is also illustrated in (65). Moreover, _tance_ expressing gustatory experience is attested in (66) and (67). There is no specific verb expressing a phenomenon-based gustatory event, however.

\[\begin{align*}
\text{tance—‘taste’} & \quad \text{MJ} \\
(64) & \text{in fuul in jen-di-n tance-we} \\
& \text{this bean this year-property=gen taste-imp.pl} \\
& \text{these beans are of this year. Taste them. Lit. This bean is…} \\
\text{tance—‘taste’} & \quad \text{Sh} \\
(65) & \text{een kusu nib-buu-l=gi tance-nal-ko-n} \\
& \text{woman meat roast-stat-part.per=obj taste-see-per-3sg} \\
& \text{the woman tasted the roasted meat (e.g. to find out whether it was soft or hard).} \\
\text{tance—‘taste’} & \quad \text{DL} \\
(66) & \text{er marak=ki tance-go-naa} \\
& \text{2sg.su broth=obj taste-per-2sg.q} \\
& \text{did you taste the broth?} \\
\text{tance—‘taste’} & \quad \text{MJ} \\
(67) & \text{surre-el kus-in juude-el} \\
& \text{tie.a.garment-part.per open-3sg dissolve-part.per} \\
& \text{tance-n taste-3sg} \\
& \text{who has tied a garment will open it, who has dissolved [something in a liquid] will taste it}
\end{align*}\]

The moral of this proverb would be that you are responsible for your actions.

4 Findings

This paper shows that the physical perception verbs discussed in this paper do not form a special subclass of verbs in the Dongolawi language. Their grammatical behaviour does not differ from agentive verbs. That is,
although activity- and experience-oriented perception verbs are not associated with proto-typical transitivity, the Experiencer role is encoded as unmarked nominative and the Phenomenon/Source role as marked accusative. This suggests that the subject position in Dongolawi may be associated with a variety of semantic roles, and that non-agentive roles are not necessarily expressed in non-subject position, contrary to languages like Beria (Saharan, Nilo-Saharan), were active alignment occurs. As shown by Jakobi (2007, 2010), Beria treats non-agentive subjects of verbs such as ‘sleep’, ‘fall’, ‘grow’ as syntactic objects, whereas agentive subjects of verbs such as, ‘marry’, ‘run’, ‘climb’ are treated as syntactic subjects.

Serial verb constructions are very frequent in Dongolawi. They may be composed of verbs belonging to different semantic fields, including perception verbs and bodily activity verbs. When the visual perception verb *nal* occurs in a serial verb construction it always takes the final position. In this context, the verbs preceding *nal* express events that appear to be necessary conditions for getting new insights. Thus, in this context, *nal* expresses cognitive activities such as checking, finding out, ascertaining, and thinking about. In other words, in Dongolawi gaining insight and knowledge is mainly dependent on sight, rather than on hearing as in the Australian languages studied by Evans and Wilkins (2000).

The ‘intrafield’ lexicalization patterns of the basic perception verbs are summarized in Table (8.2). There are three verbs, *nal, gijir*, and *tance*, each of which covers both active and experienced perception. Moreover, both experienced hearing and smelling are jointly lexicalized in one verb, *gijir*. According to Viberg (2001), this polysemous lexicalization pattern is also attested in several other languages in the world, like Russian, Persian and Yoruba.

Except for *gijir-katti*- which is the derived passive form of *gijir*, the other phenomenon-based verbs are not etymologically related to the activity- or experience-oriented perception verbs. The gaps in Table (8.3) are presumably due to the fact that there are no distinct verbs lexicalizing phenomenon-based touching and tasting events.

As for ‘transfield’ lexicalization, only the activity-oriented physical perception verbs *nal* and *gijir*, which rank high in the sense-modality hierarchy, semantically extend into the field of non-physical perception. The visual perception verb *nal* extends into two semantic fields, i) into the field of inquisitive cognition including events such as examining, checking, finding out, thinking about, and ii) into the field of social interaction as realized by greeting, meeting, visiting, guarding, protecting. The auditory...
verb *gijir* extends into the domain of social behaviour, too, as attested by the readings ‘accept advice’ or ‘take advice’ and ‘obey’.

Neither *nal* nor *gijir* lexicalize cognitive events such as understanding, grasping, comprehending, knowing, remembering, thinking or learning. These events are rather rendered by distinct verbs that are obviously not etymologically related to *nal* and *gijir*, as attested in Table (8.4) (the list is probably not exhaustive). Note that several of these lexical items are borrowed from Arabic, thus showing the deep structural and conceptual influence of the latter on the Dongolawi language.

Finally, we notice that Dongolawi (a Nilo-Saharan language) shares a number of lexicalization patterns with Kambataa, a Cushitic language spoken in Ethiopia. According to Yvonne Treis (2010: 3279), “[t]here is no lexical differentiation of activities and experiences in the domain of vision and hearing […].” If one compares Table (8.5) (which does not account for phenomenon-oriented perception verbs) with Table (8.3) above one realizes that ‘see’ and ‘hear’ share the same lexicalization patterns. It remains to be determined to what extent these patterns are more widespread in the area.
Table 8.5. Perception verbs in Kambaata (adapted to layout of Table 8.3)

<table>
<thead>
<tr>
<th>Sense-modality</th>
<th>Activity</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>sight</td>
<td>SEE</td>
<td>SEE</td>
</tr>
<tr>
<td>hearing</td>
<td>HEAR</td>
<td>HEAR</td>
</tr>
<tr>
<td>smell</td>
<td>SMELL</td>
<td>SMELL</td>
</tr>
<tr>
<td>touch</td>
<td>SEE</td>
<td>HEAR-Pass</td>
</tr>
<tr>
<td>taste</td>
<td>SEE</td>
<td>HEAR-Pass</td>
</tr>
</tbody>
</table>

The comparison of Dongolawi perception verbs with those of the Ethiopian linguistic area (Treis 2010) reveals further shared lexicalization patterns. Similar to the serial verb constructions in which Dongolawi nal is combined with other perception verbs, in Kambaata (Cushitic) and Baskeet (Omotic), ‘see’ is attested in combination with verbs expressing active touching, tasting, feeling. However, in these languages the verbs preceding ‘see’ are marked as non-finite converbs and therefore differ from the unmarked serial verbs attested in Dongolawi.

Similar to Dongolawi nal which in serial verb constructions expresses cognitive activities such as ‘check’, ‘find out’, ‘ascertain’, Kambaata xuud ‘see’ heading converb constructions semantically extends to ‘check’, ‘examine’ and ‘consider’. Treis (2010) therefore draws the conclusion that xuud “is often used to express that knowledge is acquired actively or that evidence is requested or looked for by a controlling agent”. The semantic extension of ‘see’ to ‘check’ is also attested in Amharic and Sidama.

Furthermore, comparable to numme in Dongolawi, languages of the Ethiopian linguistic area are known to have a distinct evaluative olfactory verb expressing ‘have a good smell’. However, the opposite evaluative verb expressing ‘have a bad smell’ is not attested in these languages (Treis 2010). This is also true for Dongolawi.

Although we do not know how widely these lexicalization patterns are geographically distributed, we would like to point out that they provide additional support for Dimmendaal’s hypothesis of a former typological convergence zone stretching from Eritrea in the east to Tchad in the west. According to Dimmendaal (2007), in this zone, Nilo-Saharan languages (including Nubian) were in contact with genetically unrelated Afro-Asiatic languages of Ethiopia. Up to now this hypothesis has mainly been based on morphological and syntactic features. Shared lexicalization patterns may turn out to provide additional evidence for language contact in that area.
References


